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ABSTRACT

Papers on library services and developments in reading materials for the blind, which were presented at the 1984 Expert Meeting of the IFLA Section of Libraries for the Blind include: (1) "Teaching Map Concepts to the Blind" (R. B. Horsfall and B. Cox, Canada); (2) "Optical Character Recognition 'Reading' for Computerized Braille Production" (Peter E. Hanke, United States); (3) "Computerized Braille Production at the University of Manitoba, Winnipeg, Canada" (Paul E. Thiele, Canada); (4) "Computerized Braille Production at the German Institute for the Blind (GIB/BLISTA), Marburg (Lahn)" (Rainer F. V. Witte, West Germany); (5) "The Compact-Audio-Disc as a Possible Carrier of Talking Books" (Hans Doove, Netherlands); (6) "The Role for a National Library in Providing Library Service for Blind and Physically Handicapped Individuals" (Frank Kurt Cylke, United States); (7) "Development of New Services for the Swedish Library of Talking Books and Braille" (Barry Hampshire, Sweden); (8) "Braille Production via Microcomputers and Central Site Computers" (Theo van der Gref, Netherlands); (9) "Library Services for the Blind and Physically Handicapped in the Kingdom of the Netherlands: A General Survey" (Henry Fidler, Netherlands); (10) "International Postage and Air Freight of Braille and Audio Material" (William C. Byrne, Australia); and three papers by Clifford Law of Australia--(11) "Networks of Library Services for the Handicapped: Is There a Role for a National Library?" (12) a report on the UNESCO (United Nations Educational, Scientific, and Cultural Organization) world survey of catalogs of institutions and libraries holding library material for the blind; and (13) "Report on Moves to Develop an International Copyright Application Form for the Copying of Library Materials for Print Handicapped Readers." (THC)



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EXPERT MEETING, AMSTERDAM

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Teaching Map Concepts to the Blind

by

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Teaching Map Concepts to the Blind¹

R.B. Horsfall & B. Cox²

"Tactual perception has been described as seeing through a tube, the overall picture is not discernible and has to be achieved bit by bit." (Goodrick, 1984)

Each of us might benefit from some time spent "seeing through a tube"; such an exercise would do a great deal to sensitize us to the special needs of the blind student. With its broadly-based membership, IFLA can do a great deal to facilitate, to educate, and to critically evaluate materials and methods designed for use by the blind map learner.

The technologies for production of tactual material have developed quite slowly over several centuries, to the general dissatisfaction of both users and educators. Maps have often looked impressive while actually being quite ineffective, and teaching methods have been ad hoc. Recently, we have seen an explosive development of production techniques (Weidel, 1983), and some new consideration of improvements in map design (Squirrell and Horsfall, 1982). While a great deal of work remains to be done, we can claim several useful technologies at this time; reliable and affordable production of tactual maps is quite feasible.

Unfortunately, in the rush to devise production techniques, little attention has been paid to the user's needs, and specifically to the need for training in map use and map concepts. We have assumed that map use is a natural act, extrapolating wildly from what we believe to be the usual sighted condition. The results of this rather naive perspective have been several and unfortunate.

Horsfall and Vanston (1981) argue that the presumed natural sophistication of the sighted population is largely illusory. Map reading seems not

to be a natural act; map skills must be taught to both blind and sighted students. For a middle-class sighted group, the training is incidental to other activities, and need not concern us much. For lower-class sighted, and especially for blind students, the training must be intentional.

It should be no surprise that the blind student is less than ecstatic when first confronted with a map. The map is alien, its relationship to anything in the larger world is obscure, and its use is a mystery. Coupled with the common assumption that anybody can use maps, these mysteries often lead to frustration for both student and teacher. The former sees an impossible task, the latter, a not-very-bright student. Both are victimized by a situation which can be dramatically improved through training and (perhaps) material design. This paper addresses some issues of how training might best be approached and accomplished.

Map Types

For convenience, let us define three types of maps in terms of the function to be performed. The first two types are commonly combined, but may be usefully considered as separate entities.

- A. Simple mobility from fixed point x to fixed point y. A linear map containing only needed cues will suffice in this case. An example would be a map of a building showing salient features of a single marked route from the front door to a particular office. The extreme case would be "follow the yellow line", in which the only salient feature is the line.
- B. Orientation to a personally useable space. Orientation maps help to develop understanding of a space, the elements in it, and their inter-relationships. Such understanding frees the individual in choice of origin, destination, and route, through a holistic understanding.

Examples would be a downtown map showing all points of interest, or the maps of hotel convention facilities with which most of us are familiar.

C. Education toward understanding of a space and its constituent parts.

The spaces are commonly larger than those in (B), the focus is educational and abstract, but the understanding parallels that sought with orientation maps. The school atlas maps used in social studies or geography classes are typical of this type.

Goals of Training

Ideally, we wish our students to be able to use maps appropriately. In most cases this implies development of skills which are useful and flexible. Thus, the understanding of a map should be systematic and integrated (excepting the linear mobility map above). In addition, it is appropriate to base the map-reading strategy in common sense insofar as possible. Too often, we overlook the simple and sensible in our pursuit of the cartographically sophisticated.

These goals lead us to several appropriate principles of map design and map teaching. As design is not under consideration here, it will simply be noted that the ideal tactical map will contain only what is needed by the user to accomplish an identifiable end. It will be efficient and its efficiency will be testable, thanks to the specifiable desired outcome for the user.

The teaching practice that we suggest is frankly evolutionary and student-centered. The principles are traditional in education, but are critical when dealing with the visually-impaired student. They may be easily summarized.

Teach from the student's existing strengths, developing from those skills and abilities which are already in place. Further, use existing needs wherever possible, and build around hands-on experience to the greatest possible extent.

Unless we are dealing with a great number of very similar students, these principles imply individualized courses of instruction, at least in the early stages of training. Visual impairment is multiple; degree of handicap, timing of handicap onset, associated physical and mental disabilities are but a few of the dimensions along which we may expect the blind student to vary. No single educational strategy is suitable for all. The student will, however, need to have (or to develop) certain skills and concepts as prerequisites to competent map use. (Bentzen, 1980)

Skills

1. Systematic scanning. Random search is not a useful exploration strategy. The learner benefits from inculcation of a deliberate and organized search strategy, commonly using one hand to hold a fixed reference, one to explore (with the tip(s) of preferred finger(s)).
2. Symbol identification and discrimination. Quick recognition of a small set of point line, and areal symbols is needed if efficient map use is to be possible. Multiple symbol height, and multiple textures can simplify the discrimination task markedly, as can some sort of locational referencing system.
3. Tracing line symbols. To follow a line symbol through a tactual clutter is difficult at best. Training in a combination of the two-handed system and symbol discrimination seems to underly skilled tracing performance.
4. Shape (outline) recognition. Some training in following boundaries, discriminating inside of a zone from the outside, and recognizing significant features of the outline seems necessary to the map reading process. A coordinated combination of the preceeding three skills is needed for successful shape recognition.

Concepts

While the above skills are involved in the reader-map interaction, some concepts are needed to allow the reader to link the map with the mapped world. Each of these concepts must be carefully and deliberately developed.

1. Line signifies continuity, even through changes of direction and intersection with other symbols.
2. The map symbol usually represents a real (often tangible) environmental feature.
3. Mapped size relates to real-world size.
4. Mapped shape relates to real-world shape.
5. Mapped distance relates to real-world distance.
6. Mapped direction relates to real-world direction.
7. Systematic concepts of distance and direction allow us to use the map in finding things on the earth's surface.
8. Systematic concepts of size and shape allow us to use the map in recognizing features on the earth's surface.

From our own sighted, and sophisticated vantage point, these concepts may seem trivial. When one can only "see" as far as one can reach, they cease to be either obvious or easy. In general, we believe that they must develop through sequential training; they cannot be taught in one sitting, or with one set of materials. A coherent educational strategy is needed if blind students are to enjoy a fighting chance of reaching their often considerable potential.

Such a coherent strategy should do several things for the student, and for that student's teacher. For the student, it needs to support the development of efficient map-use strategies. For the teacher, it should improve both effectiveness and efficiency.

An ad hoc approach by teacher and blind student wastes the time of both. Far too often, the student becomes lost in the map and cannot use previously developed exploratory strategies. Each new map is a new, unique, and baffling experience.

The teacher may respond to this by verbally presenting information to the student. With the usual educational time pressures, the verbal information is often limited to that which will allow the student to read the map and answer very specific questions. Unfortunately, this does not equip the student to use the map (or any map) as a study tool.

An early investment of teacher and student time in developing systematic map reading skills will reap benefits in both scholastic achievement and personal independence for the student, and in effectiveness for the teacher.

The following section outlines what we believe to be a suitable strategy for teaching map concepts to the blind. It is offered for discussion and for testing, not as a definitive model of the only appropriate teaching process. In conjunction with the inexpensive materials made possible by new production methods, we believe that it offers a most appropriate starting point, from which development may efficiently occur.

A Tentative Educational Strategy

The proposed strategy uses sequenced modules, each of which focusses on one or more of the skills and concepts needed to read tactual maps. The sequence begins with the small and personal, and evolves to the larger and more abstract. It should prove useful in dealing with all of the map types mentioned earlier in this paper.

Each module will need to be repeated several times, and each should culminate in a brief skill test. Both student and teacher benefit from this rather incremental approach; the learning task is broken into manageable

pieces, and problems are identified before they become major.

We begin with modules which are conceptually rather similar to those used in introducing sighted students to mapping processes (Wentworth, et al, 1976). Rather than beginning with symbolization of a room environment as is current practice (A.P.H. 1-0113), the sequence begins with a modeling of a small (arm-length) "environment", then moves toward larger mapped units and cartographic abstraction by easy steps. As noted above each module will be repeated (without, then with variations), and each repetition will culminate in a brief test of skill acquisition. Further connecting modules may be easily introduced; these are intended to provide a structure, rather than a definitive solution.

- A. Model reconstruction of a table-top "environment". The student will match shape with shape, location with location, at the scale of the original. This module provides an introduction to scanning and identification skills, and to a number of needed concepts.
- B. Use of own body to measure and model a larger environment. Shapes remain invariant, sizes increase.
- C. Introduction of modeling at a different scale, keyed to own body. Thus, an arm's length may be represented by a hand length, a foot by a finger, or whatever best suits the student's abilities (and size). It is generally appropriate to make and label measuring implements, both for measuring convenience, and as a first step toward a fully abstract and external understanding of scale. Introduce top of map marker.
- D. As in C, but using an abstract scale in model construction. Thus, a foot's length in the outside world may be represented by an inch on the model. The surface on which the model is built should have an incised grid, to provide a scale reference, and to allow an easy introduction to concepts of line tracing. Repeat, using different measure-

ment scales, fixed modeling scale (inch: foot, inch: arm, etc.).

- E. Introduce abstract symbols. Using a limited symbol set, re-map the environments used in B, C, D.

1. Instructor selects symbols.
2. Student selects different symbols, same objects.
3. Repeat with different maps.

At this point, we are still mapping small spaces, and working with very basic skills and concepts.

- F. Introduce concept of scale through nested map series in fixed, simple distance ratios (1:2:4, etc.). The concepts should first appear in maps of small spaces, as in E (1/4 classroom; 1/2 classroom, whole classroom). Repeat, expanding the mapped environment from one room to several rooms.
- G. Continue from F, expanding to urban mobility areas of one block, several blocks, etc. Introduce formal practice with tracing line symbols (block outlines), including suitable instruction in line tracing (use of one hand as fixed anchor, recognition of cues, etc.).
- H. Repeat G, using a different and overlapping area. Introduce concept of compass direction, north at top convention, etc.
- I. Move to larger ratios, again through nested series, developing from the familiar to the exotic. Modules F through I should include escorted mobility practice, to provide an appropriate personal anchor in experience. This also serves to move the student from a fixed viewpoint toward a holistic and flexible understanding of the map and its relationship to the world.
- J. Either in conjunction with I or as a separate module, the student should be introduced to map reference systems and procedures for

efficient location of map features. This requires maps with edge scales either built-in, or attached after production.

The student learns to count east-west scale divisions and use a straight edge to hold position while counting north-south divisions at the most primitive map level. Alternatively, the scales are labeled, so that the student may go directly to the correct division.

At this point in the sequence, basic map-use procedures and skills should be in place. Further practice will differentiate between orientation maps, and those used primarily for education. It will gradually introduce the student to an increasingly rich array of symbols, as they come to be needed in continued practice and training.

When appropriate, the student may be introduced to the linear mobility map mentioned earlier, both as a potentially useful mnemonic device and as a form which may be produced by the student for his or her own use.

The time needed for each exposure to each module will vary with the module, and with the learner. As a first approximation, we expect to spend no less than 30 minutes on each module, and to repeat several times, spread over several days. The work of Berlá and Butterfield (1977) suggests daily repetition (30') for a total of three days' exposure as an absolute minimum. Most students will need more, and all should be retested on earlier work periodically, as the sequence progresses. This need not be too time-consuming, as several modules may be run together in the repetition and practice stages.

While this educational strategy has not been tested rigorously, it contains a number of elements which are accepted as a conventional part of teaching the sighted, but which remain untried in teaching the blind. Thus, they are new applications of tested procedures.

Reduction of the map-reading task to functional components, and dealing with educational and mobility maps jointly, offers a potential for map concept learning which is both more efficient and more effective than our current practice, and integrates well with mobility training. In addition, we believe that treating the student as one component in a student-map-environment-instructor system will assist us in assuring a dynamic and self-adjusting system. We find the prospect quite exciting.³

Notes

1. The authors are respectively Assistant Professor, Department of Geography, Simon Fraser University, and Coordinator of the Provincial Resource Centre for the Visually Impaired, Vancouver, B.C.
2. We wish to thank Gail Corse, Dave Manzer, and Bertha Wieler for their very helpful comments on a draft version of this paper.
3. Comments and criticisms are invited as we develop and (hopefully) improve this approach. Please address correspondence to:

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1984

IFLA EXPERT MEETING
AMSTERDAM, NETHERLANDS
SECTION: LIBRARIES FOR THE BLIND

146-SEMBLIND-2-E

OPTICAL CHARACTER RECOGNITION

"READING"

FOR COMPUTERIZED BRAILLE PRODUCTION

by

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U S A

In the past ten years OCR, optical character recognition technology has developed to such a point that it is practical to take most printed text and optically read it. Once the printed text is read it is stored in a computer for further use or processing. Typically such uses are: displaying the text information on a video monitor for proof-reading or editing, to be stored as part of a larger data base, to be presented as a voice output or to be converted into an output form for the production of braille.

This paper will concentrate on a brief overview of OCR's and the reporting on some of the experiences we have had over the past three years in connection with a joint research project that is sponsored by the National Library Service for the Blind and Physically Handicapped (NLS) with the American Foundation for the Blind (AFB). The purpose is to evaluate high technology equipment as a tool in order to produce lower cost braille for possible application in established braille production facilities.

The total system that I have worked with consists of three distinct sub-units connected together to simulate what can be used in a braille production facility. The first is the optical character recognition (OCR) equipment where the text is placed a page at a time on a glass plate and the information is optically scanned and stored as digital information. This process is similar to what is done when you use a copying machine. Second is a micro-computer with a peripheral screen and disc drives which receive the digital data by telephone wires from the optical scanner. Using a special conversion program the computer is capable of translating the data into either Grade I or Grade II digital braille. The

last device connected to the computer is a braille printer. This printer embosses a single copy from tractor feed braille paper, but a similar printer could be used to emboss a zinc plate for preparation of high volume braille production.

Let us return for a moment to the overview of the OCR and its development. Most OCR devices are very specialized in that they are designed to optically scan a printed page of material containing a very unique type font. Generally these devices require a known type size, uniform spacing between characters, each character and number must be uniquely different so there will be no chance of confusion to the optical scanner. In this way each unique character is compared to what is already stored in memory for a perfect match. Some of these OCR's can read up to 1,000 pages per minute but only that unique type. Some can read a few unique type fonts but none of these OCR's can read proportional spaced type. In proportionally spaced type, the letter "w" is typically three times wider than the letter "i". In uniform spacing the letter "w" and "i" take up the same space. Almost all typeset copy is proportionally spaced and so most text can not be read by the typical OCR devices.

There has developed during the last decade a speciality within the field of OCR that is sometimes referred to as ICR, intelligent character recognition. This uses the techniques of optical scanning but also in addition combines computer software to create artificial intelligence. With this approach the computer software actually analyzes the shape of each character. Initially the computer is taught each letter of the alphabet by the operator viewing the exact magnified image of the printed

letter on a graphic video screen. As each letter of the alphabet is displayed on the screen the operator keys in that letter from the keyboard for future use by the computer. Each character is recorded in memory following many rules as to defining the shape of that character. With this flexible approach, most type fonts, point sizes and spacings can be read and converted into computer information.

The particular system that I am familiar with is the "Kurzweil Data Entry Machine" (KDEM). Their success is due to its unique program. The Kurzweil computer products company is constantly working on additional software to make their scanners more versatile in other applications. There is a lower cost system specifically designed for the blind with a digital voice output that can present information in the form of complete word sentences or actually spelling a particular word as directed. Other applications are available for the printing industry to work with typesetting equipment. Lawyers may use them to read patents or legal documents for a large data base. Marketing companies use them for making address lists by reading a telephone directory or other similar lists.

We at AFB are interested in using the KDEM as a rapid reading device of recreational literature. I wish to relate some specific experiences using the KDEM. This device uses a data general mini-computer. Incorporated in with the computer is a three megabyte removable rigid disc for a temporary storage with a nine track 1/2 inch IBM tape

drive for loading the software programs and backing-up the data from the disc. The terminal is a Hewlett Packard Graphics terminal and keyboard. The system has a communications link which is used to transfer the digital text to the micro-computer. The optical scanner is custom design for this application where most of the other parts described above are manufactured by others.

We found the quickest approach to feeding the pages into the scanner was to cut off the book binding thereby always working with loose sheets. It was important to enter the pages close to square so the optics could easily track the full line without error.

After some experience is gained by inputting different books, one can determine the degree of success in advance due to such factors as quality of the ink print, contrast between the ink and the paper and the degree of reading difficulty as related to the type font that was used in the printing. Poor quality printing such as may be found in paperback books where the letters are often fragmented or poor contrast due to speckled or low quality paper can cause multiple reading errors. If the computer gets information that it was not initially trained on in the beginning, it will make an educated guess but the displayed text will be highlighted by the letter being printed reversed image of white on black so the operator can view the letter in question. There also is the ability, when you put the manual cursor on the letter in question to see an enlarged graphic "analog" picture of the letter that was scanned. This combination makes corrections very easy without needing to look back at the actual text.

The program allows italics or other type fonts to be used on the same page. It also allows two or three connected letters to be taught to it. It will not tolerate continuous connected letters without some break between letters.

We found that as we proofread the copy few corrections were needed on good text but it saved time to put in special formatting symbols that were needed for the braille formatting such as: skipping lines, italics, centering, new chapter headings, etc. One highly skilled operator is required to do the initial "training" but a production input operator can be trained in only a few hours to do the routing page by page inputting and proofreading. We never felt that the proofreading phase could be skipped after the page was read because there always was a chance that the paper or printing could have a problem.

At this point the highlights have been covered but it is hoped that enough information was presented to stimulate additional questions during the discussion period.



1984

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Division: EXPERTS' MEETING.

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COMPUTERIZED BRAILLE PRODUCTION AT THE UNIVERSITY
OF MANITOBA, WINNIPEG, CANADA

by

Paul E. Thiele, B.A., M.A.

Librarian and Head

Charles Crane Memorial Library,

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COMPUTERIZED BRAILLE PRODUCTION
AT THE UNIVERSITY OF MANITOBA, WINNIPEG, CANADA

ABSTRACT

The production of braille by computer in Canada, was centered at the Blind Computing Centre of the University of Manitoba, Winnipeg, Canada. A number of world firsts were developed there including programs for the production of braille mathematical notations using the Nemeth Code, a program for braille phonetic signage and a translation program for uncontracted and contracted french braille.

However, many of these programs had to be left unfinished or incomplete and a number of events and conditions eventually led the University of Manitoba to close the computerized braille facility. In late 1983, the Manitoba Ministry of Education acquired the programs and files of the computer braille facility, and work is now underway to restore some of its functions.

COMPUTERIZED BRAILLE PRODUCTION
AT THE UNIVERSITY OF MANITOBA, WINNIPEG, CANADA

By Paul E. Thiele

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The University of Manitoba, in Winnipeg, Canada, has long been a pioneer in the use of computers for the benefit of the blind and visually impaired. The current program of computerized braille production, which is one of the most sophisticated in the world is founded on a program to teach blind persons computer programming. This university program was introduced at the University of Manitoba in 1965, only a year after the first such program was introduced at the University of Cincinnati, Ohio. The University of Manitoba course was closely patterned after the U.S. original, with some changes to adapt the course content to a Canadian setting. Blind and visually impaired students who were expected to have completed university entrance requirements, are taught the basics of computer programming with special emphasis on business application for the purpose of employment in this rapidly expanding field. The blind programming course is not part of the credit courses offered by the University of Manitoba, but is a special community service on a fee-recovery basis, by the Computing Science Department of that University. The course still exists to-day, and almost 200 blind graduates have matriculated from the special program, the large majority having found employment in business, education and government settings, where they perform their work with little or no compromise.

One of the by-products of the innovative blind programmers' course, is the production of braille by computer.

Much of the development both of the programming course for the blind and eventually the production of braille by computer at the University of Manitoba is due to the personal input and dynamicism of Donald Keeping. Mr. Keeping is a totally blind graduate with a degree in Education from the Dalhousie University, Halifax. He heard about the plans of the University of Manitoba to introduce a computer programming course especially for blind persons. He was among the first graduates of the experimental course in 1965, and his instructors were so impressed with his abilities, combined with his training in education that they asked him to assume responsibility for teaching and developing the special course and to create a facility which would be accessible and of service to the blind.

Around 1971, Mr. Keeping had heard about a system of translation by computer into contracted North American Braille, being developed at the Massachusetts Institute of Technology (M.I.T.), by W. Reid Gerhart, Dr. Jonathan A. Millan and Joseph E. Sullivan. The computer program, called DOTSYS III provided a means for printed or written text to be input by various means into a computer, and to have the computer apply the complex and challenging rules of North American Grade II English Braille. This is a form of shorthand, which saves space and time and which speeds the braille reading process of the blind. Mr. Keeping was highly interested in the possibilities of braille transcription by computer, since he was all too painfully aware of the many short comings of manual braille production. Braille transcription is

an extremely labour-intensive process, requiring high degrees of training and knowledge by paid or voluntary workers who perform it. The complexity of braille as a 'language' is due to the fact that the system is extremely limited since it offers a basic cell of only six dots, arranged in two columns and three rows, for a total combination of 64 tactile symbols. Thus the basic alphabet, numbers, chemical notations, math symbols, musical notation and computer languages must be represented, using only these 64 possible combinations augmented by a complicated series of prefixes and suffixes to each tactile letter symbol. Shorthand braille 'contractions' are equally subject to the ever-increasing number of prefixes and suffixes, which when placed next to a single braille letter, represent popular letter combinations, or even whole words. Thus braille transcribers must learn by heart the contents of very thick instruction manuals and be able to command and interpret literally hundreds of rules and exceptions. In addition, any mistakes made by manual braille transcription cannot be easily erased, and usually require the re-brailleing of an entire page.

This highly labour-intensive and uneconomical process seemed ideal for the computer, which promised to take on some of the functions of the rare and highly trained transcriber, provided a clear program of rules could be input into the machine, and promised an economical way of editing the materials, before they are committed to paper. In addition, the computer promised to store vast amounts of braille master copies in compact electronic, digital or alpha numeric formats, in memory banks, magnetic tapes or disc rather than on overwhelming amounts of paper stock or zinc braille printing plates.

Several events speeded the acquisition of the

DOTSYS braille translation program by the University of Manitoba. Mr. Keeping and the other instructors of the blind computing program were dismayed at the lack of suitable computing texts and programming books in braille for their blind students. Also, the Education Ministry of the Province of Manitoba, was beginning pioneering efforts in Canada in 1973, to move blind school students out of special residential schools into the mainstream of the provincial school system. To do this successfully, the ministry required a method of producing large numbers and greater variety of braille textbooks, which were needed to support blind students in the regular community school. Thus the Ministry assisted with financial aid for the purchase of the DOTSYS III Computer Program and necessary braille embossing equipment, plus research and development of a computer braille production facility.

Early methodology consisted of print text being typed by a keypunch operator onto punch cards. These were cumulated and turned into alpha numeric information, which was compared to the DOTSYS file of contraction rules on the University's IBM 360 computer, which was the mainframe computer at that time. The mainframe, after having completed transcribing/contracting functions, signalled an early version high speed braille printer, the MIT BRAILLEBOSS, which recognized the electrical impulses from the computer as commands to its braille printing facility, and formed the raised dot symbols. Text editing was done by means of several braille print-outs on inexpensive computer paper, which were submitted to a braille expert, who would make the individual corrections by line and word number. Then a final copy was produced in hard form, on proper braille quality paper and bound as a book.

The early braille transcription process was still very labour-intensive and costly both in terms of time and raw materials required. The staff of the Blind Computer Centre found also that the original DOTSYS package required a good deal of modification and improvement, and that the original BRAILLEMBOSS equipment was slow and cumbersome and not ideally suited for the printing of contracted Grade II braille.

Nevertheless, by early 1973, the computer transcription facility was producing the first braille versions of required textbooks under contract to the Manitoba Education Ministry. One single trained braille expert was able to make corrections and adjustments to the production of up to ten typists who were not trained in braille, but simply familiar with input methods and commands to simulate textbook formats.

At the same time, Mr. Keeping, assisted by members of the faculty and staff of the Computing Centre began, a series of research and development programs to improve the capacity of the original DOTSYS program and to keep pace with increasing complexity of braille student materials. The researchers were particularly concerned with book formats in braille, and they were able to create additional commands which considerably improved the cosmetics of computer braille, which up to that time was only able to present material in an on-going, linear fashion. Thus special program instructions were developed to accommodate the formats of plays, and tables of content, to indicate in braille the page numbers of the original print text (required for bibliographic quotations) and to provide adequate pagination of the braille text as well. A command was also developed which could move braille output to a new page as in the beginnings of new chapters or sections of books, and

another which ensured that tables and other columnar materials would not be broken up by page changes.

The capacity of the computer braille program increased considerably and the output improved when the University of Manitoba acquired a much more powerful AMDAHL 4-70 V mainframe computer and the blind facility switched from the MIT BRAILLEMBOSS to a Triformation LED 120 high speed braille printer.

The greater capacity of the new mainframe, coupled to the greater flexibility of the improved braille printer, led to new innovations. The basic information processing methods and DOTSYS package were adapted to produce a program for the creation of uncontracted french braille. Later, experimentation was conducted at producing contracted french braille, since the province of Manitoba has Canada's second largest French-speaking population and a bilingual school system.

In 1974 a senior sighted student in the Computing Science Program, Ms. Bonnie MacDonald became interested in the braille production facility, and began a series of important program and research innovations. Ms. MacDonald undertook the arduous and daunting task of examining the Nemeth Code, a code of mathematical notation for braille, with the purpose of converting this complex code into machine-readable format and the creation of a program file. The unique program which she created did allow the creation of math text in Nemeth format by computer. However, both funding and time ran out, before this program could be perfected and attempts at marketing it to the education ministries in Manitoba and other Canadian provinces failed, because of inaccuracies and vagueries of rule interpretation by input staff who themselves were not trained in

Nemeth Code. Student textbooks came out with too many serious errors, which could have lead to misunderstanding of mathematic concepts or at least to wrong computations. The time and costs involved in correcting these errors manually, negated much of the positive effects of the computer program. The mathematics transcription program has since been abandoned, - a most regrettable decision, since with adequate support, it may have provided the basis for mathematical transcription by computer, a process which still is not perfected at this point. Ms. MacDonald also wrote a program which was capable of translating pronunciation signs often used in language or linguistics books, into a braille format, by assigning a series of non-alphabetic prefaces such as braille number signs, dollar symbols and other periphra to vowels to indicate their proper pronunciation. This program was mostly experimental and intended for in-house use of blind students enrolled in language programs at the University of Manitoba. The program was apparently not completed and is not commercially available. A final important contribution of Ms. MacDonald was her research on computer production of contracted french braille. Here the staff resorted to a file of exceptions and previously resolved cases stored in sequential order to avoid the high cost of a complete look-up table. Although the accuracy factor of Manitoba's contracted french braille production is well below 100%, a methodology does exist there for producing literary french braille by computer.

CONCLUSION

The production of braille by computer in Canada is in a state of limbo; finding itself at the same time at the threshold of the future, as well as outdated and an anachronism before its time. Much of the development of a viable computer braille transcription facility concentrated at the Blind Computer Braille Services at the University of Manitoba and a number of world firsts were developed there by the enthusiastic staff and students. Mr. Keeping can proudly point to the statistics that between 1975 and 1981, the facility was able to produce all of the textbook requirements for Manitoba's population of blind secondary and post secondary students before the beginning of school terms in September. The facility was also on its way to becoming Canada's central computer braille production press. However, changing economic conditions, the lack of adequate funding to complete many of the innovative programming developments, the lack of co-ordination among the provincial education ministries, and ever-increasing demands by teachers of the blind for strict adherence to complicated braille contraction rules (presently in excess of 200 plus hundreds of changing exceptions to the rules) forced the closure of the original facility and the abandonment of the program by the University of Manitoba. The costs of using a complex mainframe computer also added to this demise, in the face of rising popularity and greater flexibility of micro computers.

Presently, the Manitoba Education Ministry has acquired the programs and facilities of the University Braille Project, and recommenced operations in late 1983.

The work is being performed by Ministry staff in the premises of the Manitoba Special Materials Resource Centre, using AES word processors, a central CPU system and a connection to the University of Manitoba's AMDAHL computer. The education ministry arranges to lease computer time, program and file maintenance and some technical assistance from the University. It is hoped that the new system, which is currently still experiencing some technical problems, will be able to once again support the braille needs of 18 blind, braille-reading students in Manitoba. Although the Manitoba Ministry has not created an official policy, unofficially, there are plans to restore the capacity to produce braille transcription for other provinces and perhaps for non-education purposes, once the braille book needs of blind Manitoba students have been met.

In the meantime, the majority of braille transcription in Canada is being performed by trained volunteers and paid staff braillists in a number of locations, some of which use the ED-IT program developed in 1982 by Dr. Robert Stepp of the University of Illinois. The program is designed for Apple micro-computers, and uses six keys of the standard Apple keyboard to produce braille letters. Although this program does not utilize the full capacity of the computer to produce braille, since it requires fully trained braille operators, it does increase the efficiency of braillists, by allowing them to edit text before it is committed to hard copy, and the storage of master copies on compact diskettes rather than bulky paper or metal plates.

It is curious that while there is in Canada a central facility with at least the potential of producing vast amounts of braille by computer, using input staff with minimal training, the bulk of all braille production

in this country is performed in a number of locations by volunteers, who must be fully trained in all the intricacies of contracted braille. In most instances, the work is being done manually on Perkins braille writers. In the two or three locations where computers are being used, the machines' potential is not being fully utilized, and their role is only a minor and supporting one.

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Computerized Braille Production
at the
German Institute for the Blind (GIB/BLISTA)
Marburg (Lahn)

by

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to be brought to meeting no:

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Remarks:

to be presented orally ☐

for distribution only ☐

**Computerised Braille Production
at the
GERMAN INSTITUTE FOR THE BLIND (GIB/BLISTA)**

1. Definition

"Computerised Braille" is understood as any way to produce braille with the help of a computer.

2. Conditions of work at GIB/BLISTA:

- 2.1. As a non-commercial, non-profit welfare and government-sponsored organisation GIB/BLISTA has the obligation to supply the blind with information in braille as well as
- 2.2. to give work to a greatest possible number of visual impaired persons.
- 2.3. In respect to the highschool run by GIB/BLISTA ("Carl-Strehl-Schule") the texts have to be of a high-quality-standard, especially with text and reference books, vocational material and legal texts. Possible errors have to be avoided from the very start of the printing process.
- 2.4. Publishing is done mainly for schools for the blind, braille libraries and to the smallest amount for individual readers directly. (The commonly used grade-2-braille narrows readership extremely.) There is no "market" for braille books; (German is not used as widely as English). But individual demand will increase with more blind children going to regular schools.

3. Steps of production

- 3.1. Preparation of text for transcribing
- 3.2. Textentry/input
- 3.3. Textediting
- 3.4. Embossing/storage
- 3.5. Printing/output

Note:

Research in the field of computerized braille in the FRG has always been done in close cooperation with the GIB/BLISTA by universities, research centers, institutions, organisations. (cf: Helmut Werner: Zwei Jahrzehnte automatische Herstellung deutscher Blindenschrift. Marburg: BLISTA 1984.- Croisdale/Kamp/Werner (Ed.): Computerized Braille Production - Today and Tomorrow.- Proceedings of the 3rd International Workshop in London, June 1979. Berlin, Heidelberg, New York: Springer 1983.)

Use of computers can be made with the steps 3.2. - 3.5.

4. Textentering to the production process/input

- 4.1. Has traditionally been done in braille (embossing, transcribing) to give work to blind people (for sighted persons braille is represented in an optical way).
- 4.2. It was only as late as 1983 that GIB/BLISTA started to use textentering of "normal print" via keyboard/personal computers (PC) for the regular production. (Presupposition was the availability of a translation software for German grade-2-braille running on a PC.)
- 4.3. A multifont character reading machine (KDEM) will be installed in 1984.
- 4.4. Compositor tapes are not used at the moment and will not be a way of input in the next future; research has shown that the lack of standardisation goes together with copyright problems and commercial interests of the original publishers.
- 4.5. Finally "computerised braille" can be achieved in an black-print-version or (with special printing procedures (screen printing, blow up ink; stereo-paper) as raised dots by use of a type setting machine (input of normal print via keyboard). This machine will be interfaced to a computer.

Note:

GIB/BLISTA prefers an off-line system ("network"); storage medium for paperless Braille is the "ECMA" standardized magnetic tape compact cassette ("Philips-Cassette"). The tape is also used to control various output-devices.

5. The hardware/textentry and correcting (braille-input)

- 5.1. 1979, after profound research and developping the micro processor controlled Data-Entry-Places/DEP (encoding units) have been installed. 5 of them are used at the braille-printing-house (BPH) of GIB/BLISTA until today and - reliable as they proofed - will do their work in the future; nearly 150 titles have been transcribed.

The units consists of an encoding machine with braille keyboard and a cassette-deck. The DEP can have a 6-dot optical display or a tactile read out.- Length of line is up to 40 characters, a page may be up to 40 lines. Steps in between can be choosen. Correcting can be done immediately during keying or by calling back the text line after line to the DEP. (For details cf. Manfred Harres: New Production Systems in Braille Printing.- In: Croisdale, Kamp, Werner (Ed.) 1983.- p. 94 - 101)

Note:

Advantages: only 7 commands:

- Read
- Cassette-out
- Clear line
- Go back one line
- Close page
- Search end of text on tape
- Set tabulator / Erase tabulator

Ergonomical styling, high-speed input, easy to handle; independant from braille code used (mathematics etc.).

Disadvantages: no stand-alone for input and editing. Operator has to know braille codes practiced.

- 5.2. DEP builds a production system with the Braille Correcting Unit (BCU). (Errors in this printing line can only be caused during input by the operator.)

Here are some technical data:

- Microprocessor-controlled central unit
- Storage of one page of braille with maximum 40 lines of 40 characters per line.
- Within the page of braille every conceivable correction facility is offered.
- The unit is equipped with a visual and a tactile display.

The following commands can be carried out:

- Display next line.-
- Display a preselected line (via keyboard).
- Move the cursor one position forward or backward.
- Jump with the cursor in a preselected position.
- Delete one character and move the rest of the line to the left.
- Insert one character and move the rest of the line to the right to the next free position, even if the margin of the line is exceeded.
- Read new page.
- Store the page.
- Delete rest of the line from the cursor onwards.
- Delete one whole line and move the following lines up.
- Insert one line and store the last line in the buffer.
- Tactile display ON/OFF.
- Selection of characters per line and lines per page (between 1 and 40 each).

Additional technical characteristics:

- Acoustic signal, when writing the last 5 characters of a line and to indicate operating errors.
- Optical and tactile indication of the line being used. Presentation of the information in 8-dot-braille-characters (dot 7 and 8 for "cursor" and Nil-character). Data-carrier is 1/8" compact-cassettes.

Data-transfer via standardized interfaces (RS 232/V 24).

One of these BCU has been installed together with the 5 DEP. Both machines were constructed by Manfred Harres. They operate in braille printing houses throughout the FRG and in 6 foreign countries.

Note:

The advantages in relation to the complete production system compensates for the time consuming browsing caused by the nature of magnetic tapes.

5.3. To meet some of the drawbacks mentioned we developed a new Text Processing System for Braille (TSB). A prototype was tested over a year and found our approval during the regular work. It is furnished with an optical and a tactile display. The configuration consists of the TSB and two cassette decks. Whether the TSB is used for text entering, editing or correction, will be determined by the hardware configuration as well as by the organization of the sequence of operations.

5.3.1. Text entering and editing
A control unit permits to input the text in braille (whatsoever grade or code) line by line, necessary, to correct it and then to write it onto a magnetic tape (cassette) page by page via a cassette unit.

5.3.2. Text correction
The text may be read in page by page from the "read cassette" (deck 1), corrected line by line, completed, if necessary, and recorded onto the "write cassette" (deck 2). The text pages on the read tape may be read into the system in a chosen order by using the number of the page, so any text passage existing on the "read tape" may be available at any time during the working process. Furthermore, in the copying mode, it is possible to copy any number of pages desired from the read tape onto the write tape.

The TSB may be alternatively equipped with an optical and/or tactile display to show the line being used and has audible signals and textual information to indicate the end of a working process and operating errors or to provide information as to the status of the system.

The data transmission between the CPU and the cassette unit (s) is ensured via a serial RS 232 standard interface. The recording mode on 1/8" compact cassettes corresponds to the ECMA 34 standard. As a result - again - we win a "clean" master tape to control various output devices.- Disk drives may be interfaced, too.

Note:

For the purposes designed and the needs GIB has to meet TSB has shown a comfortable and easy to handle system (cf. as mentioned above 5.1.). Instead of two separate units (DEP and BCU) there is only one machine. Similar to the BCU, TSB can also be used to edit digitized braille stored on ECMA-34-cassetts descending from other input devices.

6. The translation software (input of regular text)

- 6.1. All the systems described start with braille. Input of regular print needs software for automatical transcription into braille, i. e. for the German language, "naturally": contracted braille (grade 2). In 1969 a PL 1 based programme was available for large computer systems (Prof. Splett/Prof. Werner) and has been continually improved hence. Unfortunately the software could not be used on smaller machines. No sooner as 1981 a new programme in FORTRAN IV (Prof. Werner, Bonn, FRG) was available. Finally in 1983 a version for microcomputers has been developed on that basis by Michael Lautsch at the GIB/BLISTA, feasible for professional printing.

At the moment further programmes are available in the FRG:

- PL 1 version used at the university of Münster (Prof. Werner, Dr. Slaby); is used to translate a periodical; work is sponsored by one of the biggest publishers in the FRG. The programme has been improved over years.- An older version is in operation at a rehabilitation centre to produce vocational materials within the training of blind computer specialists.
- A PC-version (EPROM) is available since 1984. (There is no possibility for the user to update the programme.)

The software mentioned goes back to the linguistic research of Prof. Splett (cf. The linguistic Part of Automatic Braille Translation.- In: Croisdale, Kamp, Werner/Ed., 1983.- p. 10 - 18).

- Another (APL-)programme is in use at the university of Stuttgart (Dr. Schweickhardt) and another FORTRAN-version thereof at the university of Karlsruhe (Dr. Dürre). The last is sold together with an "Apple-II" PC.

Note:

All programmes mentioned last are not suitable to the professional needs of a BPH.

6.2. The hardware in operation at the GIB/BLISTA at the moment consists of:

- a 16-bit microcomputer (monitor, German QUERTY-keyboard; "sirius 1/victor").
- 256 KB main storage (expansion feature up to 896 KB)
- 1 parallel interface
- 2 RS 232 interfaces
- 1 winchester disk drive (10 MB)
- 2 floppy disk units 5 1/4" (2 x 600 KB)
- 1 cassette unit (ECMA 34)
- 1 printer (ink)
- 1 braille keyboard

The software needed is a text editor (wordstar), operating system (MSDOS); translation programme, braille editor and routines for handling the peripheral equipment.

6.3. The working process is as follows: the text is keyed in together with some control characters and simultaneously proof read at the monitor. Translation is done automatically, the digitized braille transmitted on cassette to produce a print out for braille proofreading.

Errors coming from the ink version are corrected first (again at the monitor that shows braille characters). Mistakes caused by the translation will be cancelled via braille keyboard after a second translating run of the amended inkprint text.

Finally paperless braille (in a version supposed to be clean) is taken on a (master-)cassette.

Note:

Of course this system is not as fast as it would be with a big machine; but we are hopeful to speed up the operation (quality comes before speed).- By now nearly 15 titles have been produced in this way.

In these days we will change from "sirius" to IBM PC: 3 for textentry and 2 (XT/370) for translating and - if necessary - to key in additional texts. We are at the moment in discussion if to use the braille-editor in the future or to make the correction with our TSB only.

(Problems to be considered in the field of computerisation are not only related with braille but also interfere with labour legislation; a point seldom referred to in our committees but fairly important in the every day business...).

7. Text Reading Machines

- 7.1. The year 1984, when GIB moved to new facilities, gives us the opportunity to install a multifont text reading machine (KDEM). Experiences from the BPH at Clovernook (Cincinnati, Ohio/USA), and the RHIB (London, GB) did not wetten the appetite for such an equipment. In addition the German development of a multifont reader had not yet come to a positive ending and one could still be hopeful.- Times have changed: the German machine died away, KDEM became cheaper and better and last GIB/BLISTA now has a translation software that meets our needs. Whether the final storage medium will be the cassette again has to be decided. At least we wish to keep up the various possibilities given within the flexible network of our CBP.

Note:

An unsolved and still time consuming problem will be the preparation of the text. In our philosophy a book has to be transcribed totally and not only the parts with pure straight letters. Multifont text reading machines will be very useful for a fiction-type recreational literature.- For the kind of books we have to produce (2.3.) a lot of questions will have to be answered (tables, graphs, pictures - the well known "bugs"). Nevertheless we hope for a faster production of individual texts (IPS).

8. Further possibilities

- 8.1. The use of our typesetting machine is - for the moment - of secondary interest as far as tactile braille is considered. We operate it as a means to (ink) print textbooks for learning braille. In the future we will probably use the possibilities for our own publications so to be able to publish our books and periodicals simultaneously in normal print (10 p), large print (14 p) and braille.

9. Computer aided braille printing

- 9.1. The often mentioned cassette with digitized braille can be used in different ways to generate paper braille. The tape can control

- the computer-aided embossing for larger editions and press duplication ("PUMA ESV") to establish one sided braille printouts for proofreading and IPS ("Thiel Braille Centre")
- to get interpoint braille (short runs and IPS) from a two-side printer ("Braillo 270", in the future also possible with a new printer by Thiel).

- 9.2. After conversion of the magnetic recording to the different demands of paperless braille reading devices the cassetts (or floppy disks) may be used instead of press braille in connection with an individual machine.

One never should abandon the hope for a full page electro-mechanical braille display; this would enable us to offer a direct use of this storage medium to the individual braille reader in a physical format he got familiar with by the talking books. For the administration of libraries for the blind this development, too, would bring great advantages.

Final Note:

Besides the computer assisted braille production GIB/BLISTA still will produce materials for the blind in the traditional way and only use EDP where the benefit for the blind readers is guaranteed.--

Brian Samways defines "Computer" (in: Computers. London, Glasgow: Collins 1983; Collins Gem. Basic Facts, p. 40) in a humorous way as:

A machine which in a fraction of a second can produce enough errors to keep eight men occupied for the whole of their lifetime.

Abbreviations

APL	A Programming Language (IBM)
BCU	Braille Correction Unit
BLISTA	Deutsche Blindenstudienanstalt
BPH	Braille Printing House
Braillo	(name of manufacturer)
CBP	Computerized Braille Production
CMOS	Complementary Metal Oxyd Semiconductor
CPU	Central Processing Unit
DEP	Data Entry Place (Braille composition unit)
DOS	Disk Operating System (IBM)
EDP	Electronic Data Processing
ECMA	European Computer Manufacturers Association
EPROM	Erasable Programmable Read Only Memory
FORTRAN	Formula Translation
FRG	Federal Republic of Germany
GIB	German Institute for the Blind/BLISTA
IPS	Individual (Braille) Production Service
KDEM	Kurzweil Date Entry Machine
PC	Personal Computer
PL 1	Programming Language (N°) 1 (IBM)
PUMA	(an embossing machine)
RAM	Random Access Memory
ROM	Read Only Memory
RS 232	(A standard serial interface)
TSB	Textprocessing System for Braille

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149-SEM BLIND-S-E

The Compact-audio-Disc as a possible
carrier of talking books

by

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THE NETHERLANDS

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THE COMPACT AUDIO DISC AS A POSSIBLE CARRIER OF TALKING BOOKS

Compact Disc (CD for short) is a very significant recent development in the field of sound reproduction. The concept is quite revolutionary. Stereo sound signals are recorded in digital form inside a small (12 cm) disc. The recording is read by a laser beam, and converted from its digital form into the equivalent sound signals. The sound reproduction quality is astonishingly high, the single-sided discs will run for up to over an hour, and the recordings are effectively protected against dust, dirt and damage. The Compact Disc system was launched in October 1982, and it has been very successful so far. The choice of discs is steadily increasing, and players are being produced by all the major audio equipment companies, as well as a lot of smaller ones. CD, it seems, is here to stay, and in fact there are a number of developments on the way. One of them is a "talking book", and that could be a very interesting development from our point of view.

Although CD only became available quite recently, it is more than ten years since investigations into the possibility of recording audio signals optically on a disc began in the Philips research laboratories here in Holland. The decision to use digital recording was soon taken; as we shall see later, this has its own particular advantages. Other researchers were busy looking into other forms of digital audio recording, but after Philips and Sony of Japan began to work together on defining the Compact Disc system in 1979, it was eventually accepted by the whole industry. CD is now the world standard for digital audio disc, and all discs and players conform to the specification. Over sixty companies around the world are now licensed to produce Compact Disc hardware or software.

The CD system uses optical readout, followed by digital processing of the digitally recorded information on the disc. Optical readout has three major advantages. The recording does not have to be on the surface of the disc; it is in fact covered by a transparent layer, which lets through the laser beam, but seals out dirt, marks and scratches. These can appear on the surface, but they are out of focus to the optical system. Compared to marks on a gramophone record, they have to be large to have any effect. Even then, a larger proportion of the readout errors caused by marks are detected and corrected in the digital circuits of the player. Furthermore, the optical disc is easy to wipe clean.

Secondly, laser beam readout causes no wear to the recording, and the disc will last a very long time. Thirdly, the laser beam focus is very sharp indeed - less than one micron in diameter - so the recorded information can be very densely packed. The single-sided 12 cm audio disc can carry an hour of high-fidelity sound.

Digital processing also has significant advantages. Like computers, the system works with binary numbers, and only has to discriminate between "yes" and "no" signals, instead of measuring the swing of a gramophone stylus or the strength of a magnetic recording. That makes it fundamentally more accurate, and less susceptible to noise. But four specific design features improve matters further still. Control codes included in the recording make it possible to find exact points in the recording very quickly and easily.

With the special modulation technique used, information can be packed even more tightly on the disc. An error correction system takes out the effects of quite large marks or scratches, and of imperfections in the disc itself. Finally, the disc carries its own built-in speed control, because the rate at which the digital signals are read is checked and adjusted by the player. This removes any trace of wow and flutter.

The Compact Disc Audio system of itself would merit serious consideration as an alternative to our existing talking book systems. The long-playing disc is small. It is easy to handle, and takes up very little archive space. It tolerates quite rough usage without deterioration of the sound, and it doesn't wear out. The player is easy to load, it plays the disc completely automatically, and specifically coded points on the disc are easy to find, by simply pressing keys. Furthermore, and this could be very important to us, it is an established world standard. Both discs and players are in quantity mass production, and the costs of both hardware and software are proportionately low.

Quite apart from high-fidelity stereo sound, however, there are other applications for Compact Disc. Because of the digital storage technique employed, the system can be used for the retrieval of digital data instead of sound. The amount of data that can be stored is enormous considering the size of the disc. Another possibility is to extend the playing time, with lower, but still acceptable sound quality, and with the same fast access facilities.

For talking books, the extended playing time is very interesting indeed. An audio Compact Disc is recorded in stereo, with a full HiFi audio frequency range. A talking book does not need stereo; by producing a mono recording, the playing time can be doubled. Then, by limiting the frequency range to the speech frequencies, the time can be extended another five times. Five times two is ten, and that gives a playing time, for a single disc, of over twelve hours. One such "Talking Book" disc can contain the equivalent of at least half-a-dozen cassettes, and there is no turning over or changing; the story plays continuously. The sound is still of good speech quality, comparable with systems we are now using, but with a signal-to-noise ratio of 90dB. But there are possibilities that the upper frequency limit can be extended at the expense of this more than adequate signal-to-noise ratio. All the advantages I mentioned earlier for the Compact Disc system still apply. Easy handling, no wear, tolerance to rough usage, automatic play, low noise, no wow and flutter, and the relatively low production costs of a world standard system. And the storage space needed for a complete library is very much less than any of us are using now.

The system as proposed would be dedicated to Talking books for the Blind, and closed to other applications, to protect our exemption from copyright. It might nevertheless be possible to have an "open-close" switch on the player that would allow it to be used for standard audio Compact Discs.

Some of us are already looking for a new Talking Book system, and would prefer it to be international. In my opinion, Compact Disc has so many advantages that it should be very seriously considered for universal adoption as the future system for Talking Books. By standardising internationally, we would get the extra benefit of economy of scale. International distribution, which does not exist today, would greatly increase the number of copies per title, and thus decrease the cost per disc. At the same time it would extend the available choice of titles.

Not everyone, of course, would want to change over to this system in the near future. And it is not necessary. The most economic policy is to make the change when the system in use reaches the point where it needs to be replaced. But what is needed, to achieve the maximum economic benefit for us all, is universal, or at least wide-ranging endorsement of the system, with a "letter of intent" to make the change when the time comes.

What are the factors to be taken into account in reaching a decision? Costs, of course.

In terms of information stored on disc, the cost per hour is one-tenth of that of a standard Compact Disc, and as such is substantially lower than any system we have at present, particularly when the long disc life is taken into account. It is noteworthy that the cost for a fully recorded disc is the same as for a partially recorded one. So it is possible to record several, shorter books, on one and the same disc.

Players, produced to a world standard for worldwide use, could be expected to be about \$300 each, ex manufacturer, with the prospect of lower prices as production increases, both of "Talking Book" players, and Compact Disc players as a whole. The "Talking Book" player price also depends on extra features that might be required, like the switch from "talking book" mode to "Audio hi-fi" mode, and of course, the total production series counts as well. On the software side, a master disc can be expected to cost between \$1000 and \$1500, and individual discs should cost between \$5 and \$10, depending on the quantity. The cost of setting up a library with an adequate catalogue will be quite daunting.

Apart from the investment in talking book players, the new libraries will demand substantial investment in remastering, archiving, handling and distribution facilities. But these will certainly be repaid in long-term system savings, not simply of space, but in handling, mailing, stocking, maintenance and replacement costs.

Pre-mastering costs of new talking books are, in principle, less affected. The master tapes of the books themselves will have to be digital, but this is a trend that is coming anyway in view of the better quality, extra editing possibilities and easy random access. The choice is between installing our own facilities and contracting the work to specialist houses. In view of the substantial amount of existing analogue tapes that will need remastering, the first choice seems the better.

Disc pressing, in the beginning, is probably best done by the record companies. But the growth in the volume of work as the system comes into use could well justify the installation of our own facilities.

For the users of the libraries, a further benefit that can be expected is reduced waiting time. It costs hardly any more to make say, two hundred discs, than it does to make one hundred, and our libraries will be able to hold larger stocks. There will be plenty of space for them, too.

The long life, compact size and relatively low cost of discs will encourage individuals to buy rather than borrow. This applies particularly to dictionaries and, above all, encyclopaedias. A Compact Disc encyclopaedia is a completely different proposition from our existing editions. It is small enough for home use, particularly if synthesized voice can be used, for then individual discs will be able to hold even more information. There is a strong possibility of this as the time duration of encyclopaedia entries is relatively short, so that the reduced sound quality could prove to be acceptable. And, of course, the fast access time of Compact Disc is an enormous advantage for works of this kind.

The Compact Disc Talking Book could well be the answer to our long-standing standardisation problem.

Tomorrow, during our visit to the Netherlands Library for the Blind in The Hague, we shall have the opportunity to hear for ourselves its possibilities as a Talking Book system. It is there where you can ask your questions from a technical point of view.

Of course a lot of other questions have to be answered so therefore I propose that we set up an international working group to study the feasibility of using the system.

I thank you for your attention.

Hans Doove

August, 1984



Section of Libraries for the Blind
Expert Meeting Amsterdam, Netherlands
August 15-17, 1984

150-SEMBLIND-6-E

THE ROLE FOR A NATIONAL LIBRARY IN
PROVIDING LIBRARY SERVICE FOR BLIND
AND PHYSICALLY HANDICAPPED INDIVIDUALS

by

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PREFACE

It should be understood that this brief paper was developed to provoke thought and stimulate discussion at a panel session of the Section of Libraries for the Blind, IFLA. It should not be considered in any way a complete presentation of the argument for any specific national library role.

There are no answers offered--only statements requiring debate and rationalization.

When considering an appropriate role, if any, for the provision of library service to blind and/or physically handicapped individuals by a national library one must first identify and describe the functions of a national library.

Natalia Tyalina, Director of the United Nations Library in New York, did this in a most comprehensive manner in an entry in the Encyclopedia of Library and Information Science.¹ She pointed out that in 1963 Ib Magnussen, Director of the State and University Library in Aarhus, Denmark, identified seven basic functions of the national library:

1. collection of national literature;
2. collection of foreign literature;
3. collection and storage of rare and especially valuable editions;
4. providing reader access to collections;
5. providing information-bibliographic service;
6. training library personnel; and
7. participation in planning of the country's library service.

None included work for blind and/or handicapped individuals.

In 1964 K. W. Humphries of Great Britain identified required, desirable, and optional categories of national libraries:

Required:

- 1) collection of all national literature;
- 2) storage of the deposit copy of national publications;
- 3) collection of foreign literature;
- 4) publication of national bibliography;
- 5) planning and coordination of bibliographic information; and
- 6) planning a retrospective national bibliography.

Desirable:

- 1) participation in interlibrary loan;
- 2) collecting manuscript materials; and
- 3) conducting research in librarianship.

Optional:

- 1) organization of national and international book exchange
- 2) collecting literature for the blind;
- 3) training library personnel; and
- 4) methodological aid to libraries within the country.

together with handicaps severe enough to restrict reading of print, is limited to a small minority of the population. Potential borrowers, or library users, will live in varying taxing districts and not in centralized locations. Therefore, single library units cannot economically provide appropriate services. It must also be accepted that variant forms of materials must be provided, with appropriate technological devices, when necessary. Further, and most important, it must be agreed that all activities performed in a national library related to print books must be performed for materials produced for use by blind and physically handicapped individuals.

With these "givens" I suggest the underlying concept that a national library, funded at the federal level, should be responsible for serving all "nationals" regardless of their physical condition is a logical location for coordination of audio, braille, and large print services for blind and/or physically handicapped individuals.

Library service to handicapped individuals is not unique in all its aspects. Indeed, there are many parallels with service to the general population.

Centralized policy setting may be developed and implemented based upon the national model. Similarly much may be pursued in

In 1970 UNESCO defined national libraries in a document adopted by the 16th Session of the General Conference²:

"National libraries: libraries which, irrespective of their title, are responsible for acquiring and conserving copies of all significant publications published in the country and functioning as a "deposit" library, either by law or under other arrangements. They will also normally perform some of the following functions: produce a national bibliography; hold and keep up to date a large and representative collection of foreign literature including books about the country; act as a national bibliographical information centre; compile union catalogues; publish the retrospective national bibliography. Libraries which may be called "national" but whose functions do not correspond to the above definition should not be placed in the "national libraries" category."

Numerous other definitions may be found--as Henry Higgins said to Liza Doolittle--"etcetera, etcetera, etcetera."

Only once, however, in the major literature of librarianship has blind service been identified. That by Mr. Humphries.

Next, one must consider the requirements of a library service program specifically designed to serve blind and/or physically handicapped individuals. First it must be acknowledged that blindness,

collaborating with ongoing national library efforts. Consider, for example:

- selection of material;
- acquisition;
- weeding;
- cataloging and classification;
- copyright clearance matters;
- training of staff; and
- publication of catalogs and other bibliographic tools.

Statistical matrices may be adopted, communication techniques developed and field service programs modified for inclusion in a comprehensive program.

Perhaps most important is the solid financial base that may be developed for continuing support. As national libraries are nearly always creatures of a national legislature, recipients of service are most usually resident in legislator's home districts. As total national costs are low and local funds variable, it is not unusual for a national legislature to consider such support a desirable demonstration of empathy and support for the library needs of handicapped individuals.

I suggest the role, therefore, for a national library may

well be as a "parental home for a special child"--providing equal access to funds and services. The national library can provide a hospitable location where special service requirements of blind and physically handicapped individuals may be developed in conjunction with those of sighted individuals and true synergy thus result.

If, however, the national library may not be willing to support a program of service for the blind immediate consideration should be given to the establishment of a separate national agency for the blind--supported by federal monies. Under no circumstances should an agency be created dependent in whole or in part upon the charitable inclinations of socially-oriented citizens. This type of organization would have the name national but none of the benefits to be derived from library-related programs.

Footnotes

- ¹Tyalina, Natalia. "National Libraries." Encyclopedia of Library and Information Science, New York, Marcel Dekker, 1976. Volume 19, pp. 94-113.
- ²UNESCO, Recommendations Concerning the International Standardization of Library Statistics, 1970.
- ³St. John, Francis R. Survey of Library Services for the Blind, New York, American Foundation for the Blind, 1957, p. 23.

Additional Reading

Lewis, M. Joy. "In Other Countries." That All May Read, Washington, D.C., Library of Congress, 1983, pp. 381-405.

DEVELOPMENT OF NEW SERVICES FOR THE
SWEDISH LIBRARY OF TALKING BOOKS AND BRAILLE

by

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Development of New Services for the Swedish Library of Talking Books and Braille

Abstract

The function of the Swedish Library of Talking Books and Braille (TPB) is briefly described. The increasing trend towards the de-centralising of loans for talking books is emphasised. With this trend the provision of up-to-date catalogues and new accessions lists has become more important and TPB now use a central library database to register all their new acquisitions.

The major braille printing house in Sweden, SRF Tal & Punkt AB is also briefly presented. Tal & Punkt makes extensive use of machine-readable media in the production of braille, and have recently established a new computerised braille production unit in the north of Sweden for the production of TPB's books. Use is also made of magnetic tapes obtained from the central library database in order to produce TPB's catalogues in braille.

The Swedish Library of Talking Books and Braille

The Swedish Library of Talking Books and Braille (TPB) was set up on 1 January 1980 as an official body and took over the library functions previously carried out by the Swedish Federation of the Visually Handicapped (SRF).

The main functions of TPB are as follows:

- to provide visually impaired and other handicapped persons with literature, collaborating for this purpose with other libraries in Sweden. It particularly rests with the library to

- 1) produce and lend talking books and books in braille,

- 2) furnish information and advice within its sphere of activity.

- with regard to lending of talking books, the library concentrates on acting as a lending centre for inter-library loans and deposit collections.

TPB initiates the production of the major part of the 2 000 talking book titles for general library use that are produced annually. Some 400 of these titles are children's books. The annual production of braille books for the library consists of some 300 - 350 titles. As a comparison, about 10 000 titles a year are produced for the sighted by Swedish publishing companies.

TPB, and to a lesser extent Swedish Library Services Ltd., are the only "publishers" of talking books in Sweden. The books produced are mainly newly published works but some 300 titles are selected each year from among older publications.

The Library has no studios of its own or copying resources, neither has it any braille production resources of its own. Each year the Library sends out a tender for the production of its talking

and braille books to a number of producers, both private and state-supported. Of these SRF Tal & Punkt AB is the most important supplier of both talking books and braille books.

During the first decade of talking books, visually impaired people got their books mainly from the central library within SRF. Subsequently the public libraries extended their services and TPB has, in conformity with the Parliamentary decision of 1977, developed increasingly until, so far as the loan of talking books is concerned, it has become the lending centre for the public libraries.

In recent years the public libraries have, to an increasing extent, built up their own stocks of talking books. Talking book borrowers in Sweden usually apply to their local library or to their appropriate regional library. At his or her local library a borrower can get more personal advice and service than from a central and special library and they have the opportunity of sharing the library's other information provision and service. Moreover being able to borrow on this basis is an example of the normalisation through integration that is the aim of Swedish policy for the handicapped as a whole.

In contrast with talking books, library activities in connection with braille books are concentrated to TPB. Provision through the public libraries does take place but not to any great extent.

This strong trend towards a more de-centralised loan system of talking books has made the provision of up-to-date catalogues and new accessions lists of major importance for TPB. These catalogues, which are produced in inkprint (with a somewhat larger type size), braille, microfiche and on cassette are particularly important to the public libraries in their information service to borrowers and in their provision of books from TPB's considerable stocks.

From 1981 TPB has initiated co-operation with Library Services Ltd (BTJ) which means that TPB's newly acquired talking and braille books can be registered in BTJ's database, BUMS. TPB's list of new acquisitions and catalogues are produced from the BUMS database. Magnetic tapes from this database are utilised for the production of braille catalogues and new accessions lists. We will consider this production in more detail below.

SRF Tal & Punkt AB

SRF Tal & Punkt AB is a production company owned by the Swedish Federation of the Visually Handicapped (SRF). This company is run according to ordinary commercial principles with the aim of attaining an economic balance which will permit the continuing development in the provision of special reading materials for the visually impaired and to provide the employees with employment security.

Tal & Punkt's main activities are the production of recorded and braille material of all types. In addition it has its own offset printing department, small publishing department and administers a database of all registered visually impaired persons in Sweden and others who subscribe to the various publications produced by Tal & Punkt.

Tal & Punkt's braille production facilities are almost exclusively computerised. Up to May 1984 production of TPB's books were carried out mainly by home transcribers on a free-lance basis - Tal & Punkt does not have any volunteer workers. During 1982 - 1984 approximately 50 titles have been produced using ordinary commercial compositors. This experimental production formed the basis for establishing a new production unit in Kiruna, in the very north of Sweden, with the explicit purpose of improving the production of library books. This will mean that the home transcribers will be reduced quite substantially during the coming year or so as the new production unit begins and increases its production.

Tal & Punkts computerised facilities in both Stockholm and Kiruna utilise micro-computers. Extensive use is currently made of material which is already in machine-readable form. For example, magazines, ranging from weekly to bi-monthly, are produced from text sent via modem from a commercial printing house; books, including the new translation of the New Testament, are produced from 1/2" magnetic tapes obtained from printing houses; material written on word processors, Versabaille, etc. are also received in machine-readable form and form a significant proportion of the printing house's production.

Expanding the range of materials that can be fed into the production system, together with the development of use of new media for the visually impaired, e.g. synthetic speech, paperless braille cassettes, represent the main development areas within Tal & Punkt's printing house.

Production of Braille Books for TPB

Until recently all braille books for TPB were produced using the traditional method. That is a braille transcriber copied the book using a Perkins braillewriter. These transcribers work at home and are employed on a free-lance basis. After proof-reading and correcting, also carried out mainly by home workers, the books are sent to a sheltered workshop for binding.

The traditional method has a number of advantages. The Perkins braillewriter is well-proved and reliable, therefore, there is little disruption of production because of machine failure. Furthermore, they are relatively cheap and therefore can be quickly replaced by a reserve machine in the event of any breakdown while the broken machine is under repair. The production process involves only a few production stages, therefore, production is quite easy to administer. Finally, as the transcribers work at home, running costs for such a production system are low.

There are, however, a number of disadvantages associated with this type of production. For example, only single copies can be produced from the Perkins; if copies are required these must be produced by vacuum-forming onto plastic. This implies that archiving of books can only be in the form of the paper original. This is very demanding with regard to the space required and, therefore, expensive.

Another difficulty with using home transcribers is that of recruiting and training. Although some of the home transcribers are dependant on their income from braille transcribing, it is hardly a lucrative profession. Furthermore in a country such as Sweden, with a small population spread over a large area, training courses, refresher courses, etc are difficult to arrange.

Partly because of these disadvantages and partly because of the general development policy within Tal & Punkt, it was decided to establish a braille production centre in Kiruna. Kiruna, which lies approximately 150 km. inside the Arctic Circle, is one of Sweden's major iron-ore mining centres. In recent years the iron-ore industry has been experiencing a crisis and this has caused mass unemployment in Kiruna as well as extensive migration south. In order to try and reverse this trend the local authorities and central government have tried to attract new, high-technology industry to the area by offering generous establishment grants, reduced taxes, etc.

Thanks to these grants and reduced costs it was possible for Tal & Punkt to raise sufficient capital to establish a production unit for, in the first hand, braille books for TPB.

The Kiruna production unit uses Ericsson Step/One micro-computers. This computer has a specification essentially similar to the IBM PC. In all there are 10 such computers. These are used to code in the books, convert the text to braille, (contracted if

ordered), production of proof-copy in coded inkprint, correcting the text, dividing the text into pages and printing out the text via a Braillo 270 braille printer.

The operating system used is a multi-tasking one, that is several different programs can run simultaneously and a new text editing program designed originally for the printing industry has been incorporated. The code structure used by this program is based on the principle that each unique meaning is assigned a unique code in the computer, even if different meanings are represented by the same character in print. Such a system is particularly appropriate for braille production as braille has only a fixed number of characters available (i.e. 64). It is common, therefore, that the braille system uses context to distinguish the various meanings which have been assigned to any particular braille character. In this text editing program each meaning is coded differently in the computer although each code would cause the same braille character to be printed. Different characters would be produced, however, in the inkprint used for proof-reading and this type of coding makes conversion between different media straightforward.

Other major components in the system are the Braillo 270 braille printer. This printer can emboss braille on both sides of the paper at a speed of approx. 270 characters a second. A magnetic tape unit has also been interfaced to one of the computers. This has two main functions, firstly to archive books, one tape reel can store ca. 30 million characters. The other main function is as a means of reading in text to the system from similar magnetic tapes from printing houses, databases, etc - at present the closest one can come to a standardised magnetic storage media. The books will also be bound on the premises using the Wire-0 method. The paper has the holes for the Wire-0 binding elements punched during its manufacture so eliminating an extra punching stage during binding. Once the sheets have been cut to size and collated the Wire-0 elements can be fed directly through the paper sheets.

A number of improvements are expected from this new production unit for braille books. Delivery time should be reduced simply due to the fact that the whole production process is carried out under the same roof. Books will no longer have to be sent by post to transcribing, proof-reading, correcting and binding as is necessary with home transcribers.

Centralising the whole production will also allow better control of production, both with regard to delivery times and to quality control. Furthermore recruitment and training should not be so difficult. Basic operation of the computers requires no special training other than that required for ordinary word processors. Training in the special aspects relating to braille can be carried out in-house.

In addition it will be possible to offer a number of new services which were not possible with the traditional method. For example, it will be possible to offer archiving of books on magnetic tape quite cheaply. New copies will also be able to be printed out and bound quickly and cheaply when requested.

By producing books with help of computers new developments with regard to new methods of inputting material and output of media other than braille on paper can be incorporated where appropriate. Some of these will be discussed below.

Inevitably the change over from a simple, mechanical production system to a computerised one will bring problems. Despite the grants obtained, the establishment of the production unit in Kiruna represents a considerable investment for Tal & Punkt. This implies a greater demand for efficient working routines and production planning than existed with the traditional method. The production system in itself is considerably more complex than the traditional method. The equipment used is more complex and there are more discrete stages within the production process. The opportunities for disruption of production for technical

reasons are therefore correspondingly greater.

Some of the potential advantages of the new production will not be realised from the very beginning. Initially, all books will be keyed into the computers manually. This keyboard input accounts for a considerable proportion of the total production time and costs. We intend, therefore, later this year to utilise a Kurzweil Data Entry Machine which a large printing house in Stockholm has recently bought. By being able to deliver books to Kiruna in machine-readable form some capacity will be available for other, more profitable work, not necessarily involving braille production at all.

A fundamental principle in the design of the Kiruna facility and also in the development of the printing house in Stockholm is that the production system must be able to cope with production of ordinary inkprint, and other special media for the visually impaired than just braille on paper.

A more obvious way of delivering books in machine-readable form would be to utilise the compositors' tapes from which the inkprint originals were produced. This is a method which Tal & Punkt has utilised on a number of occasions. There are, however, a number of problems with their use on a larger scale.

These problems are mainly administrative. The majority of Swedish publishing companies do not have their own compositing or printing departments; they use instead a number of private companies for production which means that there can be many different systems used for production of books for the same publisher. A more difficult problem, however, is that few publishing companies keep copies of their published books in machine-readable form. A much more common form of archive is offset plates. This means that when a book is finally ready for release the compositor's tape has usually been erased.

With regard to copyright there is no general agreement regulating the availability of composers' tapes in Sweden. In those cases where permission has been sought to utilise such material for braille production, it has been granted in the majority of cases, with varying degrees of control over their use and their cost. Hopefully, some kind of general agreement will be worked out in the near future although at the moment nothing definite has been planned.

Production of Catalogues

With the increasing de-centralisation of talking book loans, the dissemination of information to public libraries and even to individuals has become correspondingly more important.

At the moment catalogues are available in five different media, namely:

- inkprint (large print)
- braille
- cassette
- microfiche
- via BUMS terminals in libraries

With regard to the production of catalogues and new acquisition lists in braille, Tal & Punkt has begun to utilise magnetic tapes obtained directly from the BUMS data base at BTJ.

De-coding these tapes was not entirely straightforward as BUMS uses a 9 bit code in order to be able to represent additional alphabets e.g. Greek, Cyrillic, etc. and all the various accented letters.

Tal & Punkt now has a program which can handle these tapes. It both cleans the tapes from unwanted codes, converts the text

to braille and also inserts some special codes for formatting the text after correcting.

During the year July 1984 - June 1985 TPB plans to produce the following catalogue material in braille:

- 10 new acquisition lists for talking and braille books (approx. 2 400 titles altogether)
- A year catalogue of braille books produced during 1984 (approx. 400 titles)
- A total catalogue of children's books in braille (approx. 1 600 titles)
- A total catalogue of books for adults: supplement 1981 - 1984 (approx. 1 000 titles)

This type of material is well suited to a written reading medium, therefore, the availability of this material in braille is considered important - despite the fact that there are fewer than 300 borrowers of braille books in Sweden. There are, however, approximately 1 500 people who read braille and many of these use braille catalogues when they want to choose a talking book.

There are, however, disadvantages with braille catalogues. The first is that they can be bulky and therefore awkward to use. This is specially true of the larger total catalogues which can consist of many volumes. This is doubly irritating for the individual who is perhaps only interested in just a few sections from the catalogue.

These catalogues are also produced in between 200 and 500 copies. They are produced in this quantity as these catalogues are printed from stereotype plates and there is relatively little difference in cost between producing one hundred and several hundred copies. Therefore an archive is created which is expected to last for as long as the material is of interest to readers. With the new production unit in Kiruna it will be possible to offer another type of production service with regard to catalogue material.

By storing the finished text on magnetic tape it will be possible to take out certain parts of the total material, print them in braille and distribute them. In this way it will not be necessary to print the whole catalogue but individuals will be able to order just those sections that can be of interest to them. This will make these catalogues more usable and will reduce costs for TPB.

Use of new media forms, such as paperless braille cassettes, also present interesting alternative means for distributing catalogues and new acquisitions lists. Such material on Versabaille cassette, for example, would make such material much less bulky to handle yet still retain some of the advantages of having the material in written form. The advantages of having a book format for skimming through would, of course, be lost but if the text was suitably structured the Versabaille or similar machine have quite effective search functions. Production costs associated with the production of these media would also be considerably cheaper than printing.

What of the Future?

The general development of computer and information technology offers many new possibilities for providing the visually handicapped with the information they require. Society today consumes more and more information and at an ever increasing rate. This trend is perhaps most evident in the area of employment. More and more jobs demand that employees can handle information - either written such as reports, memos, etc. or information in some other form such as from computers or other electronic equipment. This same trend is, however, noticeable even in the area of leisure activities, for example, the enormous expansion in magazine publication, computer games, and so on.

In order for the visually handicapped not to be left behind, they must be able to gain access to this information as well. In this respect, computers and technology can hold a promise of being able, in principle, to transform these different forms of information to a form that is directly available to the visually handicapped.

At the same time the increasing rate of technical development holds a threat to the information handicapped by constantly producing new media forms and even greater possibilities for the consumption of information. Inevitably these new developments are often heavily dependent on the visual sense, for example, the use of graphics in information presentation, windowing techniques in the most recent micro-computer operating systems, touch control, etc.

It is, therefore, most important for organisations and companies working in the area of information provision for the visually handicapped to try and keep pace with the general developments going on around us. Only by working with these new technologies can we see both their potential and their hazards for those that are information handicapped.

With this background, both TPB and SRF plan to increase their use of computers into their respective organisations. This is essential if these two organisations are to be able to utilise the possibilities for rationalisation which computerisation offers and still maintain, or even increase, the number of visually handicapped employees. Thus, the developments described above are only a first step in learning how to utilise new technology and new media for the visually handicapped.



IFLA EXPERT MEETING AMSTERDAM 1984

Section of Libraries for the Blind

1984

152-SEMBLIND-8-E

Braille production via microcomputers
and central site computers

by

Theo van der Graft

Head computerdepartment

Dutch Library for the Blind

The Hague, Netherlands

August, 1984

Internal use only:

To be brought to meeting no:

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Remarks:

to be presented orally

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for distribution only

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125-2EMB1ND-8-E

1. Introduction

There are several procedures to produce braille text using computer aid. Depending on the type of text one of these procedures is used. Long text, for instance magazines, are normally produced by unformatted textinput. The text is entered via terminals into a central site computer. In this case the text is entered accompanied by so called layout instructions. Formatting of the text takes place afterwards in the computer.

Small papers and difficult text like mathematics are produced at braille input stations. Here text is entered formatted.

In some cases there is a possibility to get a magnetic tape from a printing house of books which are to converted into braille. These tapes can be read by the centrale site computer and the text can be converted into braille.

This paper gives a general description about the different methods to produce braille by computer aid.

2. Braille production of unformatted text

2.1. System specification

For the production of braille of unformatted text a central site minicomputer is used. This system consists of a PDP 11/34 computer with 96 Kbyte memory. 16 terminals can be connected to the computer. 10 of these terminals are used for text processing. The computer uses a disk of 60 Megabyte memory. 16 Megabyte is used for braille text processing, the other part of the disk is used for other applications.

A floppy disk unit is used to archive the text which is prepared for braille production. One floppy disk has a capacity of 250 Kbyte memory.

The operating system used on the pdp 11/34 computer is UNIX. This system has a advanced typeset software available which is used for text inputting and formatting.

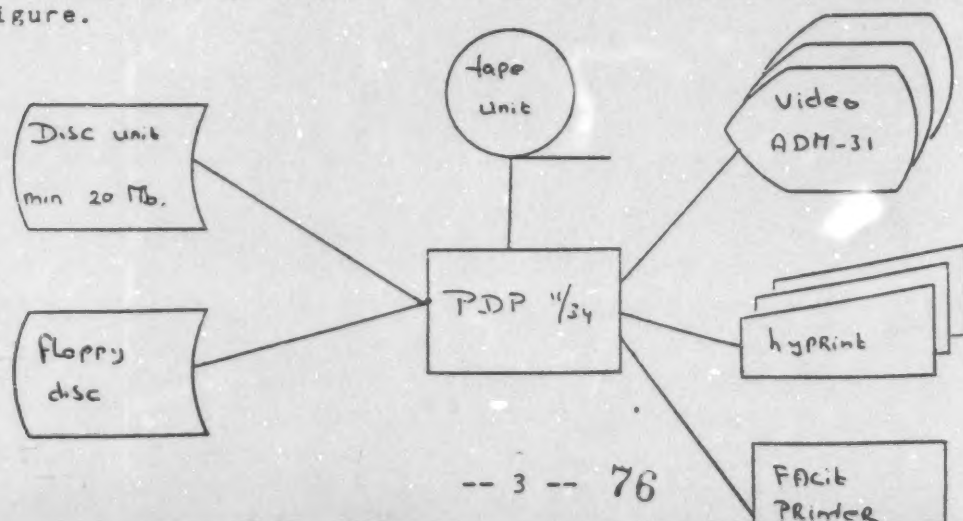
For text inputting, printer and display terminals are used. Just inputting the text is done by the printer terminals, which have a large character set which can be necessary for foreign text or mathematics, chemistry etc.

Visual display terminals are used to make corrections in the text.

A fast ink-print terminal is used to make an inkprint version of the text for corrections.

We have 2 braille terminals to print the final braille product when small volumes are needed. For big volumes cassettes are produced on a cassette recorder which is used on a braille embosser which produces masterplates for the big "Heidelberg braille press".

The total configuration of the system is illustrated in the next figure.



2.2. Textinput

The text is keyed in using one of the available terminals. The standard editor program of the Unix system is used. Small typing mistakes can be corrected while typing in the text, like remove previous character or remove the current line. The typist need not bother about the layout of the text he is preparing. Although the typist need not care for a neat layout of the text, he must insert directives for the layout program into the text. Such directives are termed "layout instructions". They are constructed such, that a computer program and the typist of course, may easily recognize them. The following layout instructions are available:

- set number of characters per line
- set number of lines per page
- skip to a new page
- skip to a new page if there are no more lines available than a certain number on the current page.
- indent the text for a certain number of positions.
- skip a number of lines
- adjust left margin
- set braille page number
- set inkprint page number
- set text for page header
- new paragraph
- set no hyphenation
- set english hyphenation
- set dutch hyphenation
- set braille contraction grade
- switch to no-format mode i.e. input text lines are not formatted. The typist has to take care for the formatting.
- end of the text

2.3. Textcorrection

When the text is entered into the computer, the text can be printed for proofreading. A printout is possible with linenumbers indicated. With this list it is possible to check the text and the layout instructions added to the text.

With the text editor it is possible to make corrections. The text editor has the following main functions:

- insert and delete lines
- indicate locations in the text where corrections are to be made. E.g. indicating linenumber, or specifying the text surrounding.
- repeat specific corrections. E.g. change any occurrence of "text1" into "text2" throughout the complete file.

2.4. Format the text

When the text is entered into the computer it can be formatted automatically. The typist has to enter the following command:

`asf file`

"file" is the name of the file, where the text is stored.

When this command is started, the computer runs the following programs successively:

`prebrl` This program performs some transcription in the text concerning the braille rules. Capitals are transcribed to capital marks and small letters or permanent capital marks and small letters. Cifermarks are added to cifers or ciferstrings. Depending on the contractiongrade, the program performs contractions in the text. The characters added to the text like capitalmarks, contractions etc. are printable in inkprint. A second task of `prebrl` is to translate the layout instructions to the standard layout instructions of the following program.

`nroff` `Nroff` is a text processing program which is included in the UNIX system. The text will be formatted concerning the layout instructions in the text. Hyphenation takes place if desired.

The final result of the command "`asf`" is the text in the so-called "asis" mode. This text has the format as it will appear in braille, but it is still readable in inkprint. If you want, this text may be printed, but that is not necessary. The computer also prints a list of all words which are hyphenated. This is necessary because there is no computerprogram which performs hyphenations correctly for 100%. If you need a 100% correctly hyphenated

text, this list can be used to indicated badly hyphenated words. If this occurs, these words can be placed in a hyphenation table with the correct hyphenationmarks, which causes a correct hyphenation in future.

In this stage there are two possibilities to put in the corrections for the hyphenations. There is a screeneditor, which can show a "asis" page on the screen. Corrections can be entered under cursor control. This is very easy because the pagenumber and linenumber in the hyphenationlist are added to the words. With the pagenumber the "asis" page can be shown on the screen, and the linenumber informs you the place of the word. Another method to make corrections is to restart the asf command, but that is rather timeconsuming and costs a lot of computertime.

2.5. Braille conversion

The next stage of the procedure is to convert the text into braille characters. This is a one to one conversion, i.e. each inkprint character will be converted to a braille code. A file will be produced which is not readable in inkprint. To get the braille version of the text the next command must be performed:

brf file

2.6. braille output

The text is now ready for making braille. When small volumes are needed, normally the text will be printed on the braille printer (the RS14 of RESUS) This can be done by using the next command:

brres file

It is possible to run "brres" with several options, like:
the length of the left margin,
to which braille printer the text must be printed,
the number of times the text must be printed.

For big volumes, the text will be written on cassette. This cassette will be used to make masterplates of the braillepages. This can be done with the next command:

cas file

2.7. Archiving the text

If necessary, text may be archived on floppy disc. A special menu program is available to write or read text files on floppy disc. The user may decide which version of the text is archived.

the original unformatted version, or the "asis" version. When modifications in the text are to be expected, it is to prefer to archive the unformatted version.

During the archive procedure, automatically a summary of the text files on floppy is maintained. At any time the user may ask for a summary of all archived text files. Then he gets a list of the filenames, file descriptions and on which floppy the file is archived including the creation and modification dates.

Another automatic feature is "autologging". Each file written on archive floppies is also written in a "log" area, which is put on tape every week. In this way, when a floppy disc has been corrupted, the floppy can be reconstructed by using the log tapes.

3. Braille production from compositor tapes

Since the beginning of 1983 the production of braille is extended with the production of braille books via compositor tapes. At the present time many printing houses work with advanced text processor equipments. The final product will always be in machine readable form, mostly magnetic tapes. The text on these tapes are "clean" which will say that textual corrections are not necessary.

A big problem is the layout instructions used in the text by the printing houses. Almost each text processing system uses a particular set of layout instructions. The translation programs have to cope with this problem. They must be developed very flexible, in a way that changing to another layout instruction set is quickly done.

With the translation of compositor tapes we aim at human intervention with the text as small as possible. Therefore the books which will be selected for this production line are mostly literary text with a small number of special texts like formulas, pictures, poems etc.

We are still in the beginning of this project. It is therefore we only translate tapes from one printing house (TULP - Zwolle).

3.1. equipment

The equipment we use for translating compositor tapes, is the same equipment as we use for unformatted text processing. An extra device is the magnetic tape unit to read the tapes, and two write the final braille product. Some more discspace is necessary, because we work with very long files, and it is very easy to have books currently in process on disc.

3.2. production preparations

Before the text from compositor tapes can be handled by the people in the text processing department of the library, some preparations must be made by the operator of the computer department.

First of all the tape must be read in. The tape must be accompanied with specifications like blocklength, textcode used (ASCII or EBCDIC). A tapedirectory is necessary to find out the important files. The operator reads the relevant files from the tape. There are several UNIX tools which can be used. In many cases it is a puzzle to find out which files belong to the text you need. But a skilled computer operator will not have many troubles with this.

Next step is to translate the layout instructions in the text to a set of uniform layout instructions. This is a little program which must be written for each kind of layout instructionset of

the printinghouse.

3.3. composition of braille reels

Now we are at the point, the text editor continues the job. He gets a number of textfiles, containing braille layout instructions. These files must be splitted or concatenated to get files with text, which has the length of one braille reel. In this stage the text editor must also pay attention for special things in the text like footnotes, titlepages, pictures, poems etc. A decision has to be made if footnotes appear at the bottom of each pages, or at the end of a reel or book. There is a special tool to set up the titlepages.

3.4. Translation of the text

Now the text can be formatted. The same procedure is used as in the braille production of unformatted text, typed in on terminals. There is one difference. When the text is formatted by the "asf" command, the computer produces a longer controllist. On this list not only the hyphenated words are printed, but also the words with accent letters. This is done, because accent letters may be expression marks in some cases. This list must be sufficient for the text editor to correct the text. Correction mostly takes place to edit the "asis" pages with a screen editor.

3.5. Braille printing

Only a small number of copies are necessary of text books. Therefore, the braille reels are printed on the brailleprinter.

4. Braille input station.

The braille input station (RIS) is a microprocessor based braille translation system. It accepts input from a visual display unit, translates it into braille and prints the output on a braille printer or cassette for the the production of master-plates. The advantages of the RIS above the previous described productionlines are:

- It is a stand-alone system, it does not require a centrel site computer.
- The layout of the braille text is directly build up at the screen. That may be usefull for difficult text with tables or formulas.

4.1. hardware specifications

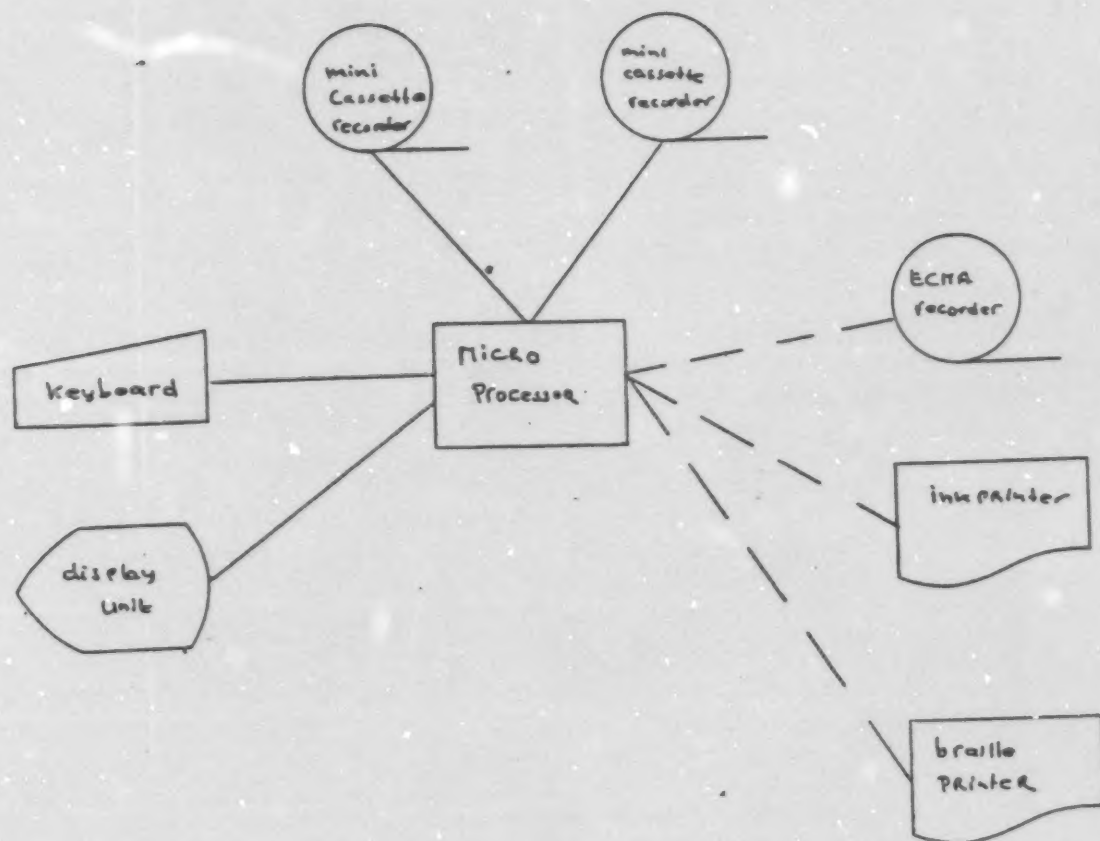
The braille input system consists of the following components:

- microprocessor intel 8080
- video display unit
- keyboard (Satellite XT"-2)
- minicassette recorder (Philips)
- Matrix printer
- braille printer (optional)

The system can be configured as two different systems. The Braille input system (RIS) consists of a microprocessor, keyboard, video display unit, one cassetterecorder and evntually a printer. With this system the text can be entered. Corrections in the text is possible within one braille page.

The Braille correction station (ECS) has a second cassette recorder, to make corrections throughout the whole text.

Next figure illustrates the biggest possible configuration.



Configuration of the Braille Input Station

The broken line are optional devices, only one of these devices can be connected to the RIS

4.2. Inputting text

When the system is started, it automatically asks via a menu, what you want to do. You may continue with a cassette which contains already text previously entered, or a new cassette, or you just want to print out the text. When you start with a new cassette the system asks some basic information about the text and puts it in a directory on the cassette. Now you can enter the first braille page. Braille pagenumbers are maintained automatically. The layout of the braille page is built up by the typist. The system will help you when a maximum linelength or pagelength is overwritten.

The system transcribes the text concerning the braille rules. The system can work in grade 0, where the capitals are transcribed to capitalmarks, ciphers to ciphermarks. The system can also work in grade 1, where some contractions are automatically performed.

The final result is, that you get a braille page on the screen with the layout as it will appear in braille. The video display unit is modified to display special characters, like capitalmarks, contractions etc. The keyboard is also modified to enter special braille symbols and commands.

4.3. operation commands

Operation commands are entered via the keyboard. The keys of the keyboard are engraved to indicate the place of the commands. Next commands are available:

- delimit the current braille page
- write the current page to cassette
- close the input session
- set numbering of the lines in the braille page
- show braille notation of the text on the screen
- set tabulator
- select grade 0 or grade 1

4.4. corrections

When entering a braille page at the PIS, it is possible to make corrections within the current braille page with cursor control. It is possible to overwrite text, or to insert text at a certain place, or to remove a text partially.

The Braille correction station (BCS) has the possibility to make corrections throughout the text. The text is read from one recorder and the corrected text is written to the second recorder. It is only possible to treat the braille pages sequentially. So it is not possible to backspace to previous braille pages.

4.5. output

It is possible to print the text on one of the next devices:

- inkprinter
- braille printer
- cassette recorder

When you are in print mode the system asks you to which printer the text is to be printed. It is possible to tell the system which braille pages you want to print, the whole cassette or from pagenumber so and so till pagenumber so.

The braille printer used is the RESUS braille printer. The cassette recorder is a FACIT ECMA-34 cassette recorder which produces cassettes which can be used for the PUMA braille master-plate embosser.



Section of Libraries for the Blind
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LIBRARY SERVICES FOR THE
BLIND AND THE PHYSICALLY HANDICAPPED
IN THE KINGDOM OF THE NETHERLANDS
a general survey

by

Henry Fidder,

Director of the "Christelijke Blindenbibliotheek"
(Evangelical Library for the blind), Ermelo, Netherlands.

August 1984.

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LIBRARY SERVICES FOR THE BLIND AND THE PHYSICALLY HANDICAPPED

IN THE KINGDOM OF THE NETHERLANDS

In IFLA-circles it is a good custom that at a conference or meeting to the country of hospitality the right is given to introduce the guests to the library work in that particular country.

So it is an honour for me to have this opportunity in the occasion of the Expert Meeting of Libraries for the Blind in Amsterdam to give you some information about the library services for the blind and physically handicapped in our country.

It is not without a reason that I give my speech this morning the title: Library services in the Kingdom of the Netherlands. Indeed it is simply a fact that the state of the Netherlands is a royal one, but I intend also to point out that the royal family in our country always has shown much interest concerning the work for the blind and otherwise handicapped carried out in various kinds and ways. So Her Royal Highness Princess Juliana, our former queen, is patron of one of the Dutch libraries for the Blind, namely the one situated in The Hague, our governmental city. It is the oldest and largest library for the blind in our country.

Complicated situation

When an outsider takes knowledge of the supply of literature for the blind as it is organised in the Netherlands, then it may give the impression of being chaotic and complicated. However, there is a clear historical reason for the situation as it is now.

To understand this it is necessary to give you some information about this historical background of which the roots we can find in the last century and from the impact it has made up till now in various ways of social life in our country.

A struggle of several decades

In the last century in Holland there was a deep struggle in school affairs. This struggle started when the government tried to organise schools in such a way that the teaching should be completely neutral and only undenominational. This was the motive for a lot of christians in our country (protestants as well as catholics) to establish their own free schools and under control of the parents themselves. So the children would get the education they liked. Teaching has always been free in our country. But the struggle for the free schools started when the christian parents demanded a part of their taxes to

finance the education of their children in the way they wanted. They reasoned as follows: if we pay taxes to give education for the children, then we also have the right on a part of this taxes for the education we like for our children.

This battle for the freedom of the schools has taken several decades. Finally in the year 1920 it came to an end as the parliament accepted a new law in which public and christian schools were equalized financially. In reality this equalisation came through by means of a compromise: the ones before neutral education stopped their striving when the christians agreed on introduction of universal voting.

A great number of sepearte christian organisations

In the meantime the struggle for denominational or undenominational schools has had a big impact on political and social life in the Netherlands in many different ways. Up till now there are, besides neutral organisations, a great number of separate organisations based on christian principles.

To mention only a few areas: there are now in the Netherlands special organisations for the protestants and the catholics in politics, for the trade unions, for radio and television, for newspapers and magazines, and for a very large number of organisations of social and educational work.

A very short historical lesson

This by the way was a very short historical lesson to give you some idea of the background that also has led to the situation concerning the supply of literature for the blind as it is now.

Of course in the Netherlands as well as in most other countries the origin of library work for the blind is to be found in the invention of the embossed print by Louis Braille.

It may be known that it has cost a lot of effort for Louis Braille to get his ideas into functioning in the education for the blind. This was his big problem as well as other great inventors have known the same experiances. As for example the famous gynaecologist dr. Semmelweis in the middle of the 19th century who fought for years and years to reduce the rate of puerperal fever through very simple means to get his ideas introduced in the hospitals: in fact only a case of hygienic precaution.

Louis Braille was confronted with problems of the same kind. In his own school in Paris where he was a teacher writing and reading by means of embossed dots it was officially accepted only two years after his death. The Braille system in the Netherlands became a grade of popularity after

it was introduced in the schools for blind pupils.

In the last century braille teaching was limited to schools with blind children as well as to special homes for blind adults.

The first library for the blind

In 1988 there came the first move towards to a neutral library with a collection of private braille books in The Hague. From that time on the history of libraries for the blind has found its starting point in the Netherlands.

The first library for the blind so is the institution still known as 'De Nederlandsche Blindenbibliotheek', the Netherlands Library for the Blind in The Hague.

The second

In 1912 the establishment followed of the Evangelical Library for the Blind in Amsterdam. Later this second Dutch Library for the blind moved to the rural village Ermelo in the centre of the country where it is still situated nowadays.

The third

In 1918 the Library Le Sage ten Broek came into being, established for the Roman Catholics. For outsiders maybe a rather difficult name. Therefore the name Le Sage ten Broek needs some explanation. The library is named after a wellknown author, publisher and politician, Joachim Guillaume le Sage ten Broek, who can be looked as a foreman of roman catholic emancipation in the Netherlands.

Initially the library was established in Grave, but since 1967 it is resided in Nijmegen.

The fourth

In 1919 the fourth library for the blind came into being, again in our capital city Amsterdam, as a department of the Public Reading Room and Library, the largest public library in our country.

Starting with braille literature

In the first decades of their existence all these libraries worked only with braille literature.

But when after World War II the technical development led to the possibility

of recording sounds and voices on magnetic tapes for reproduction afterwards, the magnetic tape also was introduced in the Dutch libraries. From now on the libraries got to their disposal a way of fixing human and musical sounds on tapes and these tapes could be lent to the users of the libraries. Through this development a larger scale of talking books came available for a great number of users who were not able to read braille, such as physically handicapped, patients with a longlasting illness and aged people to mention no more of potential users of talking literature, as well as for a high percentage of visually handicapped.

It is not generally known that not all blind and partially sighted cannot read or write braille, but in our country the percentage of the visually handicapped that is able to read and write braille is not higher than 20 or 25.

So the expansion of the work of the libraries for the blind has been tremendous over the last 25 years since the talking literature was introduced.

Three other organisations

Besides the four libraries mentioned above there are another three organisations of importance for the literature for the blind in the Netherlands.

1. The association for talking periodicals at Grave. This one is specialised in the producing of talking literature on a larger scale.
It publishes a number of periodicals, but also supplies other colleague institutions.
2. The Tanna Wilhelmina Bruynzeel Foundation in Rotterdam sets itself to the recording of talking literature in behalf of the collegial libraries. The Foundation has been called after miss Tanna Wilhelmina Bruynzeel, a famous lady in Rotterdam who worked for more than half a century in the interest of the visually handicapped. The Rotterdam Foundation does not lean books themselves but produces only for the colleagues.
3. The braille printing house "Sonneheerdt" in Ermelo. This is a department in a much bigger social workshop for the blind. It produces a lot of braille literature in close cooperation with the Evangelical Library for the Blind in the same village and as such it is the biggest braille printing house in our country.

Cooperation and coordination

As a matter of fact there is always the danger of dispersuation of effort inside a system like the Dutch with its different organisations with diverse religions and points of view. Most organisations are aware of this danger.

So in several occasions federations came into being as an umbrella for organisations with the same kind of aims to coordinate and distribute the mutual activities.

The Dutch Libraries for the blind also acknowledged the problem of dispersuasion of effort. So already in 1965 - only a few years after the introduction of the talking literature - a Foundation Coordinating Centre was established. In the Foundation all the libraries for the blind worked together to reach a good cooperation for study and vocational literature especially.

In 1976 the government started to insist on a better form of cooperation and coordination. During the discussions between the government and the libraries on this matter the users of the libraries also were involved. As a matter of fact a very concrete result could not be realised from one day to the next. The organisations involved, each one with its own identity and its historical background tried to get the needed guarantee not to loose its own character in the future.

It has taken a lot of time for the realisation of a central organisation of literature supply for the blind.

It lasted till last year, 1983, as the new umbrella could be established in the form of a foundation. The board of this new foundation consists of representatives of all the literature organisations and a same number of representatives of the users (on a basis of parity) under the leading of a neutral chairman.

In this way the influence of both sides is assured in the development of plans and policy.

Specialised students library

The establishment of the Central Organisation led to the situation that the Coordinating Centre for study literature became more or less superfluous. So it came to the decision that the Coordinating Centre and the Amsterdam Library for the Blind should merge into a specialised organisation for study and vocational literature. This decision led in 1981 to the establishment of the Students Library for the Blind.

Investigation

One of the first tasks the Central Organisation took in hand was the initiative to an investigation, consisting of two parts:

- an investigation with the literature organisations about the production as well as the reproduction and the distribution
- an investigation under a representing group of users to know the wishes

and needs of the readers and to look at possible gaps in the supply of literature.

The latter investigation will start in some days or weeks; maybe it has started some days ago.

The investigation first mentioned is almost complete. The official report has not yet been published but some provisional figures are already known. It is a great pity for our friend Kurt Cylke and his National Library service in the United States that the provisional figures show a big difference with the data given in the just published International Directory of Libraries and Production Facilities for the Blind.

25.000 users

The Dutch organisations for the blind give their services to a total of 33.000 persons nowadays. These are 19.000 readers of books and 14.000 readers of periodicals.

It is worth notifying that the 33.000 persons mentioned are not all individuals because a lot of them do not read books only but periodicals too. Besides a lot of the individuals do not get their books from one library but from two or more. This means that if we count a total of 33.000 persons a lot of them have been double or triple or more counted. When we try to eliminate these multiple counting it seems there are 25.000 individuals that lend their literature from our organisations.

120.000 book titles

Together the seven organisations mentioned have almost 120.000 book titles, namely 50.000 in braille and nearly 70.000 talking books.

Two libraries also have some 3.600 titles music cassettes for lending. Besides the seven organisations publish 192 periodicals or magazines: 44 in braille print and 148 talking periodicals.

From the total of collections in 1983 there were lent 665.000 books: 11.000 braille books and 654.000 talking books. Besides ten thousands copies of braille and talking periodicals have been sent to 14.000 subscribers.

BIS: a result of cooperation

A result of a very good cooperation is the so-called Braille Input Station (BIS), a word-processor especially developed for the production of braille literature. It took some years of research and development but finally last year a 50 BIS-machines are in use in the Dutch libraries for the blind.

Using this specially designed word-processor the braille symbols are recorded on a tape of a digital cassette. This cassette has to be placed in a printer to produce the braille sheets.

The Netherlands Library for the Blind as well as the Braille Printing House Sonneheerdt now are experimenting with the production of braille literature with the help of composer's tapes for inkprint. The moment on which braille texts can be made this way and on a large scale is probably very near.

If this new production method leads to the possibility of producing a braille book within two or three weeks probably the moment is also not far from now that we only produce braillebooks on request. For why should we make books for the shelves if we can produce them on request in a very short time?

Talking

For the production of talking literature the Dutch organisations have 38 studios to their disposal. Last year in these studios more than 24.000 master tapes have been recorded.

There are some exceptions but in general I may say that the great majority of the master tapes is produced by volunteer readers. The libraries together have for this aim a total of 1.100 volunteers.

When the production of talking literature started in the 50's of course it was only with the use of open reel tapes. But as you know during the 60's the compact-cassette became more and more popular. So started a period of using open reel tapes as well as compact-cassettes for the talking books and periodicals. But since some years we in Holland stopped the lending of open reel tapes, so that we distribute now only copies on compact-cassettes. Nevertheless there is still a very small number of magazines that can be obtained on open reel tapes by way of exception.

Last years the sound equipment is of much better quality than a lot of years ago. So it is possible to make demands on a much higher quality of our recordings.

Cooperation between the libraries led to standards for the quality.

On the basis of these standards the libraries can criticize each other's books. Even they may disapprove a certain recording. Then the producing library is obliged to read and record the book a second time.

Because the reproduction of talking literature is much easier than the reproduction of braille literature the libraries have almost from the beginning an agreement that they will not produce a book that already has

been recorded by one of the colleagues. If another library nevertheless wants the same book in the collection it is possible to order copies of it for the lending.

To prevent double production the libraries inform each other about what books are planned for recording.

When two or more libraries claim the same book a deliberation takes place for a final decision which library will do the production.

Automation

Most libraries have in one way or another an automation system for a smaller or bigger part of the administration or production.

The Netherlands Library has the greatest experience in this field with the biggest computer and an own automation department.

Therefore we decided some time ago to cooperate in the field of catalogue automation. Now we have far reaching plans for a computerised joint catalogue of combined braille and talking book holdings.

We hope that we have next year this central catalogue of all Dutch libraries for the blind in full operation.

It's an online system. The central computer is in The Hague and the other libraries have terminals at their disposal so that they can communicate with the central point in The Hague.

Finally

In a short speech like this it is not possible to give you a lot of details. It is my intention to give you a rough summary about the libraries for the blind in our country, as they are organised and as they cooperate and coordinate.

I only could glance at some items about the present-day developments, especially about some technical affairs.

I hope I have succeeded to reach this aim at this moment at which we have the honour to be your host.



1984

EXPERT MEETING, AMSTERDAM, 1984
~~IFLA GENERAL CONFERENCE, ROTTERDAM, 1984~~

Division:

Section:

154-SEHBLIND-10-E

Networks of library services for the handicapped;

is there a role for a national library?

by

Clifford LAW

Chief Librarian, Library Services for the Handicapped

National Library of Australia

Canberra, Australia

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I was enthusiastic about this topic last year in Marburg, but when I came to write the paper I had initial misgivings about its value. Firstly, two papers are being given on the same topic and I wondered how that would work out and just how much duplication would occur! I should tell you that Kurt Cylke and I have not discussed the topic, nor have we sent one another copies of our papers. One could say that this is a good example of a lack of international co-operation and the type of activity that this Section seeks to overcome.

My second misgiving is a more serious one and is a key issue in any international discussion of this topic. When I combed the literature looking for information on national library involvement in library services for the handicapped, it soon became apparent that only a few national libraries perform any roles in this field, let alone a role within a network of library services for the handicapped. This misgiving based on the lack of a role in the majority of national libraries became the catalyst for this paper.

In an attempt to find the reason for this absence of a role, this paper will look briefly at the history and functions of national libraries; it will then look in detail at those national libraries that do perform a role and assess their activities in terms of the development of networks. In conclusion the paper will answer the question 'Is there a role for a National Library?' and why this appears to be an activity of a minority of national libraries.

The label 'national library' encompasses a wide range of organisations which differ from one another both in their problems and in the nature of their activity. In fact, there are a large number of national libraries specifically

for the blind. The development of the national library as a type of library was associated with the growth of the sovereign states in the eighteenth and nineteenth centuries as a result of attempts to consolidate national science and culture. The process was begun in 1795 when the French National Convention declared the library, previously belonging to the Kings, to be national property, and granted it the right to obtain deposit copies of all printed publications in the country.¹

The functions of national libraries have been gradually evolving since the eighteenth century. The dominant function of national libraries prior to 1945 was the exhaustive acquisition of printed material and the cataloguing of these materials. There was no perception of wider library functions or a national role outside of the concept of collecting the nation's published output.

The national libraries were forced to expand their functions in the mid-twentieth century because of the following widespread changes:

- . the growth in the number of people involved in science and technology created the need to broaden the use of information sources
- . the pace of scientific progress had a direct effect on the rapid increase of published scientific and technical material
- . the growth of special libraries particularly in this field of science, technology and economics questioned the value of large general national libraries

- . the growth in the number of libraries has accelerated the tendency towards co-operation and development of library systems.

The national library as a type of library was 'modernized' by the effect of the above changes. National libraries lost much of their traditional isolation and exclusiveness to take on a wider function within the library community.

As libraries in general became more and more conscious of the growing problems of organizing the amount of information available, it became more apparent that they could no longer function as self-contained independent units. Clearly there was a potentially wider role for a national library.

The Symposium on National Libraries in Europe organized by UNESCO in Vienna in 1958 concluded that the National Library should play a central role in co-ordinating national library service.²

Co-ordination in this period was seen in a strict bibliographical sense covering such areas as

- . creation of the national bibliography
- . compilation of union catalogues, and
- . provision of a centralised catalogue card service.

However, in the recent past there has been an increasing expression in many countries of the need for national information networks and invariably there has been a parallel expression of the need for a national focus to act as the central point of such a network.³ Chandler sees the provision of this leadership as an essential role of a modern national library. Leadership implies a preparedness to be active, and "to play a key part in the planning for the best use of material and human resources to ensure the maximum benefit to the community."⁴

Maurice Line argues for a wider function for a national library. He puts forward the view that while the acquisition and retention of a nation's publications, and the production of national bibliographies are basic functions of a national library, they are not as important as actual document supply.⁵ The traditional approach taken by national libraries to ensure a ready supply of documents has been through the development of union catalogues. However this approach has its limitations as a union catalogue is no guarantee that all of the materials available are held in the libraries listed in the catalogue. The solution and new role put forward by Line is for the national library to collect and organise for efficient supply scarce literature most likely to be required.⁶

The evolutionary expansion in the functions undertaken by national libraries has led to the development in the United Kingdom, Canada, New Zealand, Australia and the United States of strong, centralised national libraries. However this has not been the pattern of development in Europe.

While there has been a similar concern at the range of functions to be undertaken at the national level, European governments have not developed national libraries to undertake these functions. Instead they have chosen to endow existing library organizations with national functions. The European model is therefore a product of the blending of existing libraries with new functions into a national structure.⁷ The effect of this approach to national library functions has had a measurable affect on library services for the handicapped in these countries and the result will be assessed later in this paper.

There is fairly general consensus that the national library should perform the following functions:

- . the outstanding and central collection of the nation's literature
- . Dépôt légal
- . coverage of foreign literature
- . publication of the national bibliography
- . national bibliographical information centre
- . publication of catalogues
- . inter-library lending
- . manuscripts
- . research on library techniques
- . document delivery
- . leadership

All of these functions are not equally developed in all national libraries and the forms they take are not identical since they are determined by the specific historical and social conditions in which they have developed. Nevertheless, one of the characteristic features of the present stage of development is the widespread tendency for those functions to develop into an integrated whole.⁸

Before I look specifically at those national libraries that do perform a role in the provision of library service to handicapped people, I would like to clarify the meaning of the term library network. One hears the terms network and networking used widely in library and computer contexts. In this paper the term library network is defined as:

"A specialised type of library co-operation for centralised development of co-operative programs and services including use of computers and telecommunications, and requiring the establishment of a central office and a staff to accomplish network programs rather than merely to co-ordinate them."⁹

I have chosen this definition because it defines quite specifically the key elements that constitute a library network:

- . library co-operation
- . centralized development of co-operative programs and services
- . use of computers and telecommunications
- . central office and staff to accomplish the programs

In applying this definition to national libraries serving the handicapped, I believe only one library has established a role in networks of library service for the handicapped. That is the Library of Congress. I am sure Kurt Cylke in his paper will explain in detail the component of the NLS system and how these components constitute a unique network in the library world. The NLS Network is unique because the relationships are firmly grounded in national legislation and financial provision so that the internal strength of the structure is not dependent on co-operation alone.¹⁰

Because there is only one national library operating effectively in a network of library service for the handicapped, this paper will examine the role of national libraries from a broader perspective. A number of other national libraries have developed individual components that indicate a role in this field. This paper will try to examine these functions rather than the activities of each individual national library. This approach will help to answer the question - Is there a role for a national library?

Resources Provision

Earlier in this paper I quoted Maurice Line's views on the important part a national library should play in actual document supply. He argues that in the areas of scarce library resources a national library should collect and organise for efficient supply, the literature most likely to be required. Line's arguments about scarce print materials can easily be applied to library materials for the handicapped.¹¹ We all know how few titles are available

in each country, the high costs of production compared with 'normal' commercial materials, and the limited availability of commercially produced titles. Clearly this is a function that could be undertaken by a national library.

At this stage only two national libraries have taken on this function - the Library of Congress and the National Library of New Zealand. The Library of Congress provides recorded and braille books and magazines for recreational and informational reading and play-back equipment to blind and physically handicapped readers via the NLS network. Similarly, but on a much smaller scale, the National Library of New Zealand is developing a national provision of talking books to be made available through public libraries and directly to print handicapped readers not served by public libraries.¹²

Other national libraries in this field have not seen resource provision as a priority function. The Canadian Task Group on Library Services to the Handicapped in their report to the National Library of Canada saw national library responsibility in resource provision as an area that would be developed through a number of phases. These would cover:

- . funding of original production, by contractual arrangement with one or more designated production units, of some Canadian, and of some reference, technical and little-used materials (Phase 1, No.5)
- . selection and production of foreign language materials, in co-operation with the Multilingual Biblioservice, National Library (Phase 2, No.1)

- . investigation of production of large print Canadiana (Phase 3, No.3)
- . investigation of the desirability of establishing a national resource collection (Phase 3, No.4).13

While the Canadian Task Group saw other tasks as more urgent than resources provision by the national library, they did nevertheless see it as a function that the library should undertake.

The National Library of Australia attitudes to this function are more in line with the traditional national library roles outlined in the first part of this paper. Apart from a collection of lesser-used braille deposited by Australian braille libraries, this library sees resource provision as the responsibility of public, State and voluntary agency libraries. This traditional approach sees the national library providing access to national resources through the development of a union catalogue of those resources. However, this approach has distinct limitations; there is no guarantee that the libraries contributing to the union catalogue will have sufficient resources to provide an acceptable national level of resource provision.14

Bibliographic control

The sharing of library resources has become a standard practice among libraries serving non-disabled readers, because no library can hope to possess every book or source of information produced throughout the world. Resource sharing has become a necessity. The ideal is to make it possible for a client of a particular library to have access to the resources of a number of other libraries via inter-library loan.

The relatively small number of titles available to the handicapped reader through each library centre dictates the development of cost-effective means of pooling and sharing these resources. This entails seeing each collection as constituting a component of a national resource, whose vastly expanded diversity must enrich the reading experience of this user group. Such resource sharing necessitates the establishment of an inter-library lending system and central to this is the creation and maintenance of a national union catalogue.

de Villiers and Shumaker in their paper to the meeting of the IFLA Round Table of Libraries for the Blind in 1980 clearly outlined the steps that need to be taken for the development of resource sharing of library materials for the handicapped.

"The first step towards resource sharing is the establishment of a national bibliographic centre in each country. The purpose of the centre is to build a national union catalogue based on information from libraries and producers about new and existing materials for handicapped individuals."¹⁵

de Villiers and Shumaker also make the point that it would be advantageous if such a centre co-operated with or had a close association with the National Library. What has been the response to this call for the establishment of national bibliographic centres for library materials for the handicapped?

In looking closely at the national libraries in this field it is obvious that they have all placed a higher priority on bibliographic control of library materials for the handicapped.

The Working Party on Library Services for the Handicapped in their Report to the National Library of Australia in 1979 considered the establishment and maintenance of a union catalogue to be a top priority and considered the National Library, in view of its national bibliographic role and functions, to be the appropriate institution to undertake the task.¹⁶ Similarly, the Canadian Task Group recommended that "a union catalogue of non print and special print materials for the use of the handicapped be established at the National Library"¹⁷, as an integral component of the co-ordinated national program of library service.

All national libraries in this field have responded to the need for bibliographic control of library materials for the handicapped. The following chronology will illustrate this development:

- 1977 Reading Materials for the Blind and Physically Handicapped published on computer output microfiche (COM) by the Library of Congress

- 1979 This catalogue widened into a union catalogue with the inclusion of materials from network libraries
- 1981 National Union Catalogue of Library Materials for the Handicapped (NUC:H) published on COM by the National Library of Australia
- 1982 Union Catalogue of Braille and Recorded Books published by National Diet Library, Japan
- 1984 Canadian National Union Catalogue of Library Materials for the Handicapped (CANUC:H) published by the National Library of Canada.

The national and international exchange of books for the handicapped depends on access to clearly presented, useful information about reading materials available from other countries. Standardization holds great promise for making catalogs and cataloguing data from one country understandable in another.¹⁸ In their efforts to develop national union catalogues the national libraries have attempted to come to grips with the problem of developing national and international cataloguing standards for these materials.

Schauder and Cram in their international study of libraries for the blind published in 1977 found that there was an almost unbelievable lack of bibliographic tools to meet the needs of the blind.¹⁹ Information obtained from the recent world survey of libraries for the blind conducted by the National Library of Australia on behalf of IFLA, indicates that apart from the national libraries, no other organisations have yet established national union catalogues of library materials for the handicapped.

Co-ordination/Leadership

National libraries by the very nature of their position in a national library system have the power to lead, co-ordinate and give direction to that system. Have the national libraries involved in library services for the handicapped perceived a co-ordination leadership role in this field? The answer is yes. No one can doubt the leadership role that the Library of Congress has undertaken. The very existence of an effective NLS network depends on central co-ordination and leadership. Francis St. John in his milestone survey of library service for the blind in the United States, clearly put forward the view that:

"a policy of true leadership should be adopted by the national agency for the whole program of library service for the blind. This can be done and the integrity and autonomy of the locally supported institution maintained at the same time."²⁰

The need for a strong co-ordinating leadership from the national library has been expressed in other countries. The Canadian Task Group saw the establishment of a co-ordinated national program as a vital element in the improvement in library service in that country.²¹ Similarly, in Japan national co-ordination is seen as a key to the effective development of a network of library service for the print handicapped.²²

What form has this co-ordination taken? I know Kurt will explain the Library of Congress role so I intend to look more closely at the activities of other national libraries.

The National Libraries of Australia, Canada and the National Diet Library of Japan, have all placed considerable emphasis on co-ordination of the production of library materials for the handicapped. Because of the decentralised nature of the production of materials in these countries, unnecessary duplication in the production of these materials is a major problem. These libraries have realized that by co-ordinating the production of these materials this duplication can be minimised and the number of titles produced actually increased.

The National Library of Australia introduced a computerised Works-in-Process system (WIP) in 1983 as the co-ordinating mechanism to provide information about works in production. The National Library of Canada introduced a similar system in 1984 and the National Diet Library is also planning a computerised production information system.

Standards

Standards are essential if services and products are to be measured and improved. The Library of Congress has played a pioneering role in the development and implementation of standards for library service and materials

local public library. Similarly both reports stressed handicapped people ought to have access to the same library materials and services that are available to the non-handicapped population.

In trying to assess the activities of national libraries in terms of networks of library services for the handicapped, I would like to reiterate that I believe the Library of Congress is at this stage, the only national library that is performing the central role required for a library network to operate. It should be remembered that the Library of Congress has been in this field longer than any other national library. In 1897 John Russel Young opened a reading room for the blind because he thought it was wise to make provision for blind people in a library of national character. The other national libraries mentioned in this paper can only trace their involvement in this field to the 1970's rather than the late 19th Century. Given the relative youth of the activities of these national libraries it is only natural that many of the elements that make an effective library network are not yet as developed as in the American system. Despite this fact, one can see in these libraries the elements that have already established the preconditions for the development of a functioning library network.

In attempting to answer the question "is there a role for a national library", the question needs to be asked why it is an activity of only a minority of the world's national libraries. Humphreys in his classic article on national library functions put forward the view that library services for the blind are essentially a national function, though not necessarily a function of a national library.²⁴ It would appear that this view is accepted by the majority of

for the handicapped. St. John in his survey of library services for the blind in 1956 urged the Library of Congress to establish and enforce specific standards for performance and operations. The first US standards published in 1961 were proposed in co-operation with the American Library Association. They defined the service as essentially a public library service for blind readers and a reference service for anyone interested in blindness and the services available to blind people. Professional and personal qualifications for librarians were also listed.

The standards published by the Committee on Standards and Accreditation of Services for the Blind (COMSTAC) in 1966 further defined library services to this group of library users. The standards defined three levels of responsibility, federal, state and community, and that the interlocking network must include even the smallest public library. Perhaps most importantly these standards pointed out that blind readers needs are the same as sighted persons and that library services provided to them should have the same basic principles and objectives.²³

The COMSTAC Standards have had an effect far wider than the professionalisation of library service to the blind in the United States. I believe they directly affected the philosophy and recommendation of the Canadian Task Group and the Australian Working Party on Library Services for the Handicapped. Both reports recommended a co-ordinated national program with shared responsibilities between national, provincial (state) and local levels of governments. Both reports recommended that direct distribution of materials was the responsibility of the

national libraries. One can gain some understanding of this position by looking at what structures have been developed to undertake national library functions. In the United Kingdom, United States, Canada, Australia, New Zealand and Japan the approach has been to develop a strong national library organisation to undertake these functions. In an environment with a strong single national organisation it would appear that there is a greater probability that the organisation will assume a role in library services for the handicapped.

The European approach would appear to militate against this role developing. The approach of endowing national library functions on existing state, university or research libraries has meant that a national role in library services for the handicapped has either been given to an existing library of the blind or no organisation has taken on the function. Denmark is a good example of the first approach and West Germany and the United Kingdom of the second. Harrison Bryan in his paper "Why a National Library" puts forward the view that it might be possible to design and implement a system based on the effective co-ordination of a group of adequately funded libraries without a national library.²⁵ This in fact is what has happened in some European countries. Groups such as the Co-ordinating Centre for Study Literature for the Blind (Coördinatie-centrum voor Studielectuur voor Blinden) in the Netherlands and the German Working Group of Talking Book Producers (Arbeitsgemeinschaft Deutscher Blindenhörbüchereien) in West Germany play an important part in the co-ordination of library services for the blind in these countries.

Is there a role for a national library in networks of library services for the handicapped? The answer is yes, depending on the national structure in the country. Many of the functions examined in this paper can and are being undertaken by other organisations, but not with the same national focus as that given by a national library.

Line states that "a good national library system without a good national library is a rarity, for the national library is the physical manifestation of national library service."²⁶

I would like to conclude with a variation on this quote - a network of library services for the handicapped without a national library is a rarity, for the national library is the physical manifestation of the central focus needed for the network to function.

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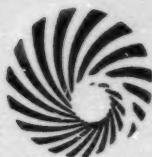
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REPORT FOR EXPERT MEETING OF THE IFLA SECTION OF LIBRARIES
FOR THE BLIND, AMSTERDAM, 1984 ON THE SURVEY OF CATALOGUES
OF INSTITUTIONS AND LIBRARIES HOLDING LIBRARY MATERIAL FOR
THE BLIND

Clifford Law
Chief Librarian
Library Services for the Handicapped
National Library of Australia

2 July 1984

Introduction

The IFLA Section of Libraries for Blind received funding from UNESCO (contract No. 671280.3) for a study of the tools to improve the availability of library materials for the blind. The National Library of Australia was asked by the Chairman of the section to undertake part of this study covering a world survey of library materials for the blind. The objective was to determine the types of materials available for the visually handicapped such as books, newspapers, magazines and music as well as the formats and number of titles available. As well as this the survey aimed to determine the availability of these materials for loan, exchange or purchase.

Mailing list

In co-operation with the Library of Congress and IFLA the National Library produced a mailing list based on the Section news mailing list and information contained in the International Directory of Libraries for the Blind and Recorded Production Facilities (unpublished). The names and addresses of additional libraries and organisations for the blind were taken from the Directory of Agencies for the Blind in the British Isles and Overseas (London, RNIB, 1980). From these sources the National Library was able to produce a world mailing list of 425 organisations for the blind and/or libraries for the blind.

Questionnaire

A draft questionnaire was produced by the National Library in association with the Australian Bureau of Statistics. This draft was sent to members of the Section Standing Committee in December/January to trial test the questionnaire. The information and comments gained from this trial was used to modify the draft.

The second draft was produced at the end of January, checked again by the Australian Bureau of Statistics and further modified.

Response Rate

The questionnaire was distributed in March, with a return date of 7 April 1984. On 11 May a follow up letter was sent to those organisations that had not replied by that date.

By 29 June 113 of 425 organisations had responded to the survey. A list by country indicating the country, number of surveys sent and the number received, is attached.

In an attempt to increase the response rate a decision was made to send another copy of the questionnaire to those organisations that had not responded. This copy will be distributed at the end of August with a return date of 21 September.

Analysis of the survey data

No analysis has been undertaken on data collected in the survey. This will commence at the end of September.

Report for Expert meeting of the IFLA Section of Libraries for the
Blind, Amsterdam, August 1984.

Country	No. surveys sent	No. surveys received
Algeria	1	
Antigua	1	
Argentina	2	
Australia	11	10
Austria	2	
Bahamas	1	
Bangladesh	3	
Barbados	1	
Belgium	8	2
Belize	1	1
Bermuda	2	
Bolivia	1	
Brazil	3	2
Bulgaria	1	
Cameroon	1	
Canada	30	14
Chile	1	
Colombia	2	
Costa Rica	1	
Cuba	1	
Cyprus	2	1
Czechoslovakia	3	1
Denmark	12	6
Dominican Republic	1	
Ecuador	2	
Egypt	1	
El Salvador	1	
Ethiopia	1	
Fiji	1	
Finland	5	1
France	14	3

Country	No. surveys sent	No. surveys received
Gambia	1	
Germany, Democratic Republic	3	
Germany, Federal Republic	14	6
Ghana	2	1
Gibraltar	1	
Greece	4	1
Grenada	1	
Guatemala	1	
Guyana	1	
Haiti	1	
Hong Kong	4	1
Hungary	2	
Iceland	6	3
India	10	2
Indonesia	3	
Iran	3	
Israel	5	2
Italy	4	
Ivory Coast	1	
Jamaica	4	
Japan	23	9
Jordan	1	
Kenya	4	2
Korea	1	1
Lebanon	3	
Lesotho	1	
Libya	2	
Luxembourg	1	
Malawi	1	
Malaysia	5	3

Country	No. surveys sent	No. surveys received
Mali	1	
Malta	1	
Mauritius	1	
Mexico	2	
Morocco	1	
Nepal	1	
Netherlands	14	
New Zealand	2	2
Niger	1	
Nigeria	5	
Norway	9	1
Pakistan	3	
Panama	2	
Paraguay	1	
Peoples' Republic of China	1	
Peru	2	
Philippines	6	
Poland	5	
Portugal	6	1
Romania	1	
Saudia Arabia	2	1
Senegal	1	
Sierra Leone	2	
Singapore	2	2
South Africa	6	1
Spain	6	
Sri Lanka	1	
Sudan	1	
Swaziland	2	1
Sweden	15	4
Switzerland	7	2

Country	No. surveys sent	No. surveys received
Syria	1	
Taiwan	3	1
Tanzania	2	1
Thailand	3	1
Tunisia	1	
Turkey	3	
Uganda	1	
UK	8	5
USA	42	12
USSR	3	1
Uruguay	1	1
Venezuela	1	
West Indies	4	
Yugoslavia	6	2
Zambia	2	
Zimbabwe	4	2
TOTAL	425	113

INTERNATIONAL POSTAGE AND AIRFREIGHT OF
BRAILLE AND AUDIO MATERIAL.

Report to Expert Meeting of IFLA Section on Libraries
for the Blind, Amsterdam, August, 1984.

Introduction

In August 1978, the then Round Table of IFLA agreed that steps needed to be taken to speed up international movement of braille and audio material for libraries serving blind and handicapped readers. Among the steps considered were:

- submit a proposal to the Universal Postal Union for braille and audio material to be carried at concession rates;
- approach IATA for freight concessions;
- design an appropriate label or symbol to identify such material for postal and customs authorities.

Henry Fidder and Alfred Hagle developed these points for further action at the 1979 meeting in Copenhagen and were re-endorsed. The 1982 meeting in Montreal once again discussed these same suggestions, as did the 1983 Munich meeting.

Surely 1984 must be the year when we agree on action and start on the way.

It is imperative that we agree at this meeting on the steps to be taken, and on the timing of these steps. It is also important to note that, while all members must support the moves, success will only come if the large national libraries put effort in to it. (This point was made strongly in the 1977 paper of Fidder, Hagle and Ankobia.)

International co-operation is blossoming but the fruit is slow to develop after the blossoms fall. As Paul Thiele commented in a letter to me on this matter, "Computers and data bases have made it possible for special libraries and material producers to communicate and search one another's collections in minutes; the international exchange of materials on behalf of borrowers may still take a matter of several months".

If we don't accept the delays of surface mail as inevitable, then the cost soon cools our enthusiasm. In a recent inter-library loan in which I was involved, air freight and its associated charges on a three volume braille book came to \$A150. We will be able to air mail it back as Australia is one of the few countries which gives concessions for air mail of braille and audio material.

It would appear from the preliminary results of the IFLA sponsored, "Study to Improve the Availability of Library Material for the Blind", that a large number of libraries are prepared to lend and sell braille and audio. The NLS/LC Survey on Music is now available. The Cylke/Hanky Survey of international braille and audio producers is due for release soon. The problem is getting the books and tapes speedily and that is what we must tackle.

PAGE TWO.

International Postage and Airfreight of
Braille and Audio Material (continued).

We need agreement for action on:

1. An internationally accepted logo/symbol
2. An internationally accepted label
3. A planned approach to national postal authorities
4. A planned approach to the Universal Postal Union
5. A planned approach to local international air carriers
6. A planned approach to IATA
7. Local clearance with customs authorities
8. Ascertain necessary regulations on weights etc..
9. Support from IFLA, UNESCO, WCWB and other international groups.

1. An internationally accepted logo/symbol:

The Munich meeting accepted "BLINDPOST" as a symbol. A suggested logo with this neologism is attached. It should be printed black over yellow in sizes to go on small packets for airmail post - the same sizes as airmail labels now.

They need ratification for action by individual countries.

2. An internationally accepted label:

The second suggested label is for air freight. The "BLINDPOST" label cannot be used for this or it will cause confusion. Therefore "BOOKS FOR THE BLIND" is suggested. The colours suggested are, again, black over yellow. "BOOKS FOR THE BLIND" should be in a range of languages - the sample does not contain any Asian and should probably do so. There is space for the despatching agency's name and address. This will legitimise the carriage at reduced rates. The label may need to be larger than the sample.

This label needs a decision on languages and ratification for action by individual countries.

NOTES

- (a) It is suggested that the two labels be used internally as well as internationally so that postal authorities and airline staff will become familiar with them.
- (b) In the main, airmail will be used for small items - cassettes, reels, perhaps 1 volume of braille. Air freight will be used for the larger parcels.

Continued ..3/..

PAGE THREE.

International Postage and Airfreight of
Braille and Audio Material (continued).

Before proceeding with Items 3 - 8 (as above), we need to reach agreement also on:

Material to be carried.

Braille
Tapes and cassettes
Talking Book Machines and Recording Equipment
Embossing devices.

Reduction to be sought.

Aim at reduction of airmail and airfreight charges to 10% of the normal rate.

Surface mail is carried free and we should be prepared to pay something for the extra service of quick delivery (as happens with ordinary post).

In relation to airfreight, "free carriage" too often means that material is left for a future flight with, hopefully, spare space. If some payment is made, then airlines would be under greater pressure to ensure it travels on the first available flight.

Further, a case can be made for reduced rate because of the higher production costs, packaging, and bulk of material for the blind. Blind readers are disadvantaged by a cost factor of at least ten.

3. A planned approach to national postal authorities.

Each member will need to agree to approach their national postal authority for the concession and for acceptance of the BLINDPOST logo. If agreement can be reached with a number of countries, there will be a "snowball" effect, and pressure can be applied on countries reluctant to agree to our requests.

4. A planned approach to the Universal Postal Union.

Later, with a number of countries (or even a majority), an approach to the Universal Postal Union can be made.

5. A planned approach to local international air carriers.

Although there have been occasions when particular airlines have agreed to carry material free of charge, it has been on an individual, once only, basis. This is not worthwhile as a regular thing.

Therefore IATA and individual airlines should be asked to agree to a special rate for books for the blind.

The amount of material to be sent by airfreight will not be great in overall terms, but will be significant for the agencies concerned. As agencies will be paying, they will only use this facility where it is a matter of urgency for clients.

It will be mainly used for braille books or tapes.

Each member will need to agree to approach local international air carriers for a freight reduction and acceptance of the BOOKS FOR THE BLIND label.

PAGE FOUR.

International Postage and Airfreight of
Braille and Audio Material (continued).

5. A planned approach to local international air carriers (continued).

There will be some problems in the early stages here as not all airlines travel to all countries. This means that members will need to act quickly on this so that interchange and onward freighting will be smoothed out.

Paul Thiele raised the question of payment for the "courier" part of delivery charges where "door to door" delivery is used. This would seem to be necessary, and acceptable for the convenience.

6. A planned approach to IATA

As with the UPA, an approach should be made to IATA through IFLA directly, and through national affiliates of IATA (i.e. airlines). It will need to be made when a number of members have achieved success with their local approaches.

7. Local clearance with Customs Authorities.

Members will need to agree to approach their local customs authorities to ensure duty free entry of parcels with the BLINDPOST and BOOKS FOR THE BLIND labels. It will raise difficulties if this is not cleared quickly and before members start using the labels. There may be regulations about how such parcels should be packed/sealed etc., for customs inspection.

8. Ascertain necessary regulations on weight etc..

Most postal authorities have weight limits on airmail parcels. This information must be ascertained and circulated so that parcels are not rejected.

Similar information will be required from air carriers.

Members will need to agree to follow this up.

9. Support from IFLA, UNESCO, WCWB etc..

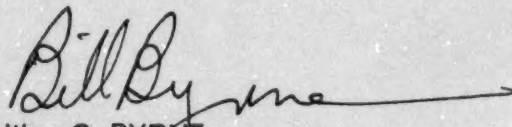
The Standing Committee will need to have authority to follow up with all necessary international bodies.

SUMMARY

It will be necessary to have consensus and commitment from all members to achieve this breakthrough. We will need to keep close contact and exchange news of successes (and failures).

A package will need to be prepared with necessary facts and figures, samples of the logo and label, plan of action etc.. From this the necessary approaches can be made to key people in airlines and governments.

Finally, IFLA will need to liaise with all possible international agencies for support.


Wm. C. BYRNE.



157-SEMBLIND-13-E

National Library of Australia

ref:
date:
contact:

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Telex Code No. 62100

REPORT ON MOVES TO DEVELOP AN INTERNATIONAL COPYRIGHT
APPLICATION FORM FOR THE COPYING OF LIBRARY MATERIALS
FOR PRINT HANDICAPPED READERS FOR THE EXPERT MEETING
OF THE IPLA SECTION OF LIBRARIES FOR THE BLIND,
AMSTERDAM, AUGUST 1984

Clifford Law
Chief Librarian
Library Services for the Handicapped
National Library of Australia

July 1984

During the International Federation of Library Associations (IFLA) Conference in Munich in August 1983, a meeting was held between representatives of the IFLA Section of Libraries for the Blind, the International Publishers Association (IPA), the World Intellectual Property Organisation (WIPO), and the World Council for the Welfare of the Blind (WCWB).

The meeting followed on discussions within the UNESCO/WIPO Working Group on Access by Visually and Auditorily Handicapped to Material Protected by Copyright (UNESCO, 25-27 October 1982), but concentrated on practical problems faced by libraries serving handicapped readers.

Following wide ranging discussion on the benefits of using a standardised internationally accepted form for seeking copyright approval; the meeting agreed that the National Library should circulate copies of the form used in Australia to other English language countries. This form could be a model for the development of a draft international copyright form. The meeting recommended that work on the development of the above form should be completed within six months.

Samples of the National Library Copyright application form were sent to:

South African Library for the Blind
Tape Aids for the Blind
National Library Service for the Blind and Physically Handicapped, The Library of Congress
The Royal New Zealand Foundation for the Blind
Rehabilitation International (N.Z.)
Royal National Institute for the Blind
National Library for the Blind (U.K.)
National Library of Canada. The National Library of Canada distributed copies to producers in Canada for comment
Canadian National Institute for the Blind
The Publishers Association
The International Publishers Association and
The Chairman of the IFLA Section, Libraries for the Blind

SOUTH AFRICA

June 1984 Tape Aids for the Blind

- . recommends the acceptance of the National Library of Australia copyright application form as the world standard form
- . issue of concern lack of bibliographic information (edition, place of publication, publisher date) in producing agency library catalogues

June 1984 The South African Library for the Blind

- . National Library of Australia copyright form discussed with South African Publishing Association. They approve the principle of a standard form
- . South African Library for the Blind drafting a bi-lingual copyright based on the National Library form

NEW ZEALAND

January 1984 Royal New Zealand Foundation for the Blind

- . agree in principle with the need for a standard copyright application form based on the National Library form

CANADA

December 1983 The Canadian National Institute for the Blind

- . the need to differentiate between copyright applications for student/job support and recreational materials
- . delays in responses to urgent student materials have prompted the CNIB to design two forms - one for students (pointing out the urgency of the request) and one for recreational materials. Experience in Canada indicates the value of this approach with student requests taking 5 days and recreation requests taking an average 5 weeks
- . the need to differentiate between original transcription and the copying of previously transcribed works. With the importation of so many copies from the Library of Congress, a separate form for re recording or duplicating avoids copyright letters indicating that permission had been given to the Library of Congress
- . prefer not to specify the number of copies to be produced
- . it is not CNIB policy to offer payment and the National Library of Australia form seems to invite publishers to set conditions

January 1984 Ontario ministry of education, the W.Ross MacDonald School, Brantford

- . the need to enclose a letter of explanation explaining the service provided by the organisation applying for the permission e.g. non-profit
- . the form is adequate to meet the needs of any organisation seeking copyright approval

February 1984 Manitoba Department of Education

- . the form does not appear to provide for appeals or second requests which are necessary when the original request is either ignored, lost or denied. This organisation has found that 25% of requests require routine follow up, while 5% of requests require subsequent correspondence regarding specific issues raised by the copyright holder.
- . there is no provision for the producer to retain a copy of the cumulated information on the copy 5
- . the need for a broader description of the physical description on the copy 5
- . support the development of a standardized, international procedure for seeking copyright approval and would encourage the National Library of Canada to participate in the International Federation of Library Associations' efforts to achieve this objective

UNITED STATES

December 1984 The National Library Service for the Blind and Physically Handicapped comments from publishers

- . the need to list the actual length of time for which permission is valid; e.g. 2 years, 4 years etc.
- . do not include large print. Large print rights licenced to commercial publishers
- . for recording rights, the publisher must frequently direct the application elsewhere. There is no space on the application to indicate that the request must be sent to another organisation or individual
- . preference for letter size format instead of 6 x 8 card size
- . a few publishers were concerned that if many countries were using the same form, it would not be as easy to identify the country seeking permission even though name of the country would appear. Countries now submit forms or distinctive letters which make each country easily identifiable by the permissions editor

Comments from NLS staff

- . no space on the form for copyright claimant
- . the term handicapped on the form may be misunderstood. Countries may differ in offering reading services to select groups of the handicapped; i.e. serve only to the blind and not to other groups of physically handicapped
- . there is no space for the actual title of the publisher or agent who signs the form. Sometimes the signature may be illegible and with staff turnover in a publishing house, it may be difficult to identify the signer
- . the Library of Congress permissions form includes a printed block of the Director's signature. The proposed form would require someone in authority to sign each permission request

The Library of Congress Copyright permission form is designed as computer stationary and requires little manual typing. The Library of Congress encourages other countries who have not evolved a form or have not automated this procedure, to consider the National Library form.

UNITED KINGDOM

November The Publishers Association

- . If the form is to have international use it should have an additional section to indicate those territories for which rights are being granted
- . possible need for a section indicating language
- . the need for a Works-in-production system to be established in each country
- . the need to exclude large print from the form because of the commercial market for this format

Royal National Institute for the Blind

- . the form should indicate the number of titles required for each country

AUSTRALIA

Australian Publishers Association

- . concerned at the large number of copies requested as a minimum for English language permission (300 copies). Suggested that this number would not be accepted by Australian publishers who are used to requests for smaller numbers (50-100 copies)

November 1983 International Publishers Association

- . mention should be made on the form of the countries for which rights are being granted and countries that are excluded
- . concern at including large print on the form. Private publishers may be reluctant to publish large print publications if they face competition from State subsidized institutions

CONCLUSIONS

- . there was widespread support for the concept of a universal copyright application form
- . widespread feeling that large print should not be included on the form
- . it was impossible for the National Library of Australia to design a model form including all the comments of the above organisations
- . it may be premature at this stage to move towards one universal copyright application form
- . it would appear to be more realistic at this stage for producers in each country to agree on a form for use in that country. This form could be based on key elements contained in the National Library form such as -
 - (a) elements describing the work permission is being sought for (ISBN, author, title, edition, place, publisher, date)
 - (b) formats required
 - (c) name of applicant and signature

- (d) permission information
- (e) some indication of the disabled group covered in the application, e.g. blind, print handicapped

Producers could also include other information needed to meet particular needs in that country -

- . separate form for student requests
- . multiple languages
- . difference between original transcription and re recording
- . exclusion of the number of copies required
- . inclusion of the time period for permission
- . different format

There is an obvious need for the IPLA Section of Libraries for the Blind to maintain a continued interest in this topic and to maintain contact with the International Publishers Association on copyright and library materials for the blind.

Organisations surveyed on this document be asked to report to the Section on moves in their country to move towards the use of a standard national copyright application form.